AN ARGUS SPECIALIST PUBLICATION

March 1985

GAMES COMPUTING

85p

The magazine for those who take their computer and video games seriously

The games of the films– The Last Starfighter and McCartney's Broadway

Plus:

your own programs to play for VIC, Spectrum, BBC, Atari, C64 and TI-99/4A

And:

the latest reviews of adventure and arcade releases

...7 busy characters, 10 lost chords, 12 hours, 48 Traffic Wardens, 95 London Tube Stations, 126,720 square feet of London, 7 million Londoners ... 943 action filled screens.

PAUL McCARTNEY'S *Give my regards to*

BROAD STREET

When the music stops, the mystery begins...

MIND GAMES

COMMODORE 64 – £7.99

Argus Press Software Group

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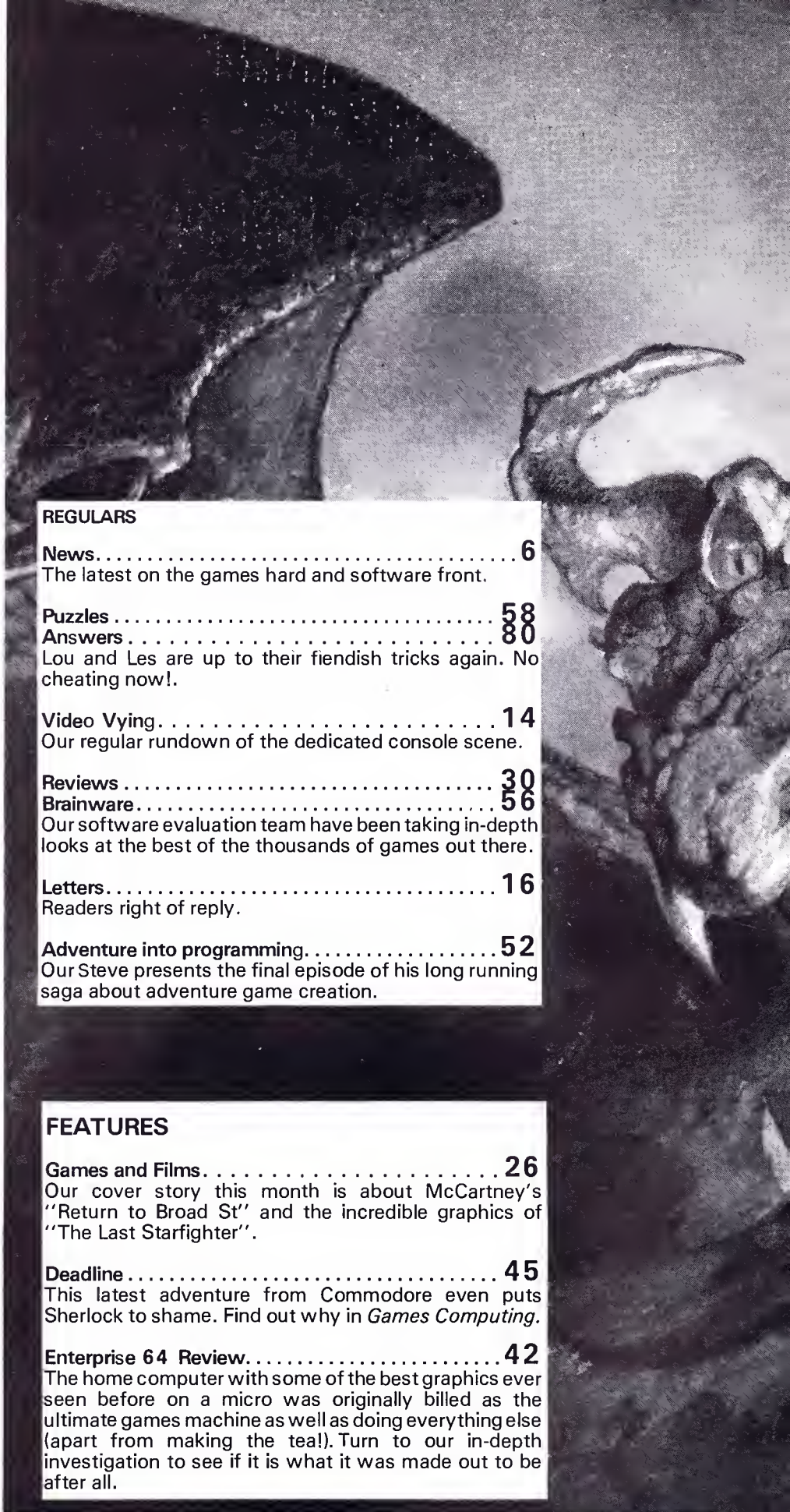

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MARCH 1985

GAMES COMPUTING

PROGRAMS

Boxing..... **Spectrum/18**
You can challenge a variety of world famous opponents in this highly graphical game.

Rollergoal..... **Extended TI-99/4A 68**
An excellent game for the extended TI that closely follows the film Rollerball. Guide your skater around the track avoiding the bikers and opposing skaters, and try to get that goal!

Colour Coder..... **C64/76**
Guess the combination of colours that the computer sets you. An excellent presentation of the classic game.

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A fiendishly difficult adventure game for the 64. Can you get into the castle alive?

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Card game and gambling for the Atari.

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Adventure intrigue for the expanded VIC 20.

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Race around the track and avoid colliding with the opposing computer controlled car.

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Tramiel Talks

Jack Tramiel, the new boss of Atari, came to London recently and spelt out his plans for a "new look" Atari in 1985. His plans include:

The scrapping of the 7800 Pro system, the super games machine that would run all standard VCS/2600 cartridges and some new super carts. The 2600Jr and Jt though will have continued support.

A new redesigned 800XL, this would be little more than a cosmetic change, as the machine will be similar to its present form. The 600XL has been already scrapped.

A new range of eight bit machines, all compatible with existing 400/800/XL software with a lap help portable with 256K, a 128K machine similar to the 800XL, and a music machine.

Within the next month or two the second generation of Atari machines should be launched, they are based on the 16 bit Motorola 68000 processor as used in top business machines, an eight bit version of this chip is used in the QL. The machines will have 255K to 4M memory and cost below £400. These machines are reputed to have really stunning graphics that are better than anything yet available. A new range of peripherals is to be launched with a low priced printer at £59.

In the middle of this year the really big machines will come out. Based on the 32 bit National Semiconductor 32032 processor, these will really be business machines, but they will have a higher spec than any others on the market and be priced at less than £1000. This is part of a drive to change the image of Atai from a games company to a more serious computer manufacturer.

The first effects of this 'new deal' are the re-structuring of prices, with the 800XL down to an excellent value £129.

Atari are at Atari House, Railway Terrace, Slough, Berkshire SL2 5BZ.

Can We Throw Away Microdrives At Last?

Thurnall Electronics, a little known Manchester firm, have just completed a three inch disk system for the ZX Spectrum. The system uses the standard Hitachi drives. The system comes in a small box about twice the size of the drive itself and connects to the Spectrum by way of the now familiar 50 way ribbon cable. The system is compatible with Microdrives, Interface 1 and 2 and most other known printer and joystick interfaces — though none of these are necessary for operation.

One interesting feature is that it uses up no Spectrum memory at all and will work on both 16K and 48K versions of the machine. The unit is a total redesign of an original system using the Hungarian MCD-1 disks which Thurnall sold last year.

The new system features an extra 10K of storage with disks that are reversable to give 160K of storage per side. Also included is an output only RS232 interface for serial printers.

The big advantage is speed. Tape users have to wait long periods for programs to load. Microdrives are a little better only the tapes themselves cost a great deal and don't last too long before they get munched up destroying your data with them.

All changes with Thurnall disks though. Typical loading times are a minimum of one second, with a maximum loading time for a 40K program of 2-3 seconds. How's that for fast!

The operating system takes the form of an extended Basic in ROM that uses Spectrum Basic commands to communicate with the disk drive, without any funny command structures or 'user hostile' features.

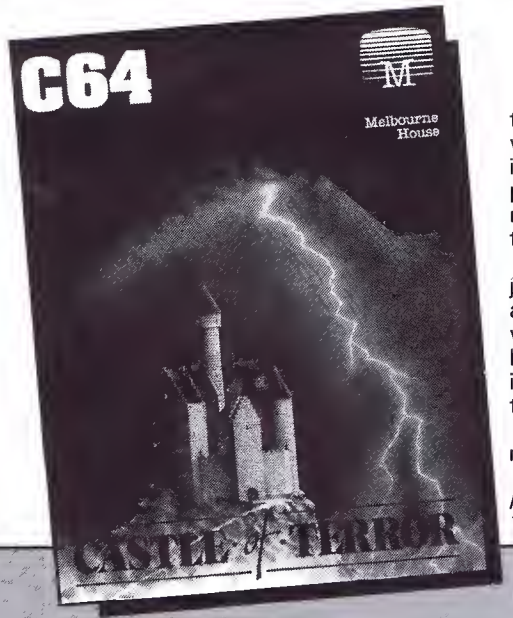
Thurnall disk drives for the ZX Spectrum will cost around £220-£230 and are available now.

Thurnall Electronics are at 96 Liverpool Rd, Cadishead, Manchester M30 5BL.

Terrifying Melbourne House

Castle of Terror is a new version of the original Dracula story set on a Commodore 64.

The adventure features full graphics that are drawn at high speed and use the C64's graphics to the full. Text handling has not been sacrificed at the expense of graphics either. The Commodore's 'elephantine' memory will take the 40 pictures as well as full lexicon checking for full sentence input — no more of the verb-noun command structure.



Castle of Terror is set in the 1880s, the player starts in a village near to where the sinister Count lives. By talking to the villagers you can discover the plot — namely that the nasty vamp has removed a beautiful young maiden and taken her up to his evil castle.

If you haven't already guessed, your job is to enter the castle, save the girl, and remove the Count's treasure, which rumour has is there. Melbourne House say that surviving is success in itself, but escaping with the treasure is the ultimate achievement.

Castle of Terror is for the Commodore 64 and costs £9.95 on tape.

Melbourne House are at Castle Yard House, Castle Yard, Richmond, Surrey TW10 6TF.

It's All Greek to Me!

Ocean's latest game, called Gift from the Gods, is set in the Palace of Mycenea in Ancient Greece.

The (on-screen) player is controlled by a system that Ocean call "Intelligent Control". This method of control is where the (real) player can move his joystick and his alter ego will move in that general direction according to the environment and what circumstances permit.

The plot follows the trials and tribulations of Orestes who, under the direction of the gods Zeus and Apollo, must avenge the murder of his father, king Agamemnon.

Agamemnon was murdered by Orestes' mother — Queen Clytaemnestra and her lover Aegisthus (try saying those with your mouth full!). Orestes was banished and his sister, Electra (not the Acorn version) was imprisoned beneath the palace in the catecombes.

Are you following the story so far? Good, I'll carry on then. Needless to say, after a few years of Clytaemnestra and Aegisthus' reign, the kingdom falls into a bit of a decline. But all is not lost, read on . . .

On his 21st birthday, Orestes emerged from his hiding place and was taken by the gods to Mount Panassus, here he got the usual accoutrements of a silver studded sword and the seven tears of Icarus.

As usual there's a catch. Orestes must return to the kingdom of Mycenae and prove that he is Agamemnon's son and the rightful heir to the throne. This can only be achieved by entering the catacombes beneath the castle and solving Agamemnon's puzzle.

The player becomes Orestes and must enter the catecombes to collect various Euclidian shapes that fit together to reveal the exit to the catecombes.

Various nasties are out to get you, however, some of the nasties are actually illusions and will do you no harm at all! Orestes' sister, Electra, knows all about the shapes, so if you find her it makes life a lot easier. There are many other plots and sub-plots in this game — and most of them are unpronounceable!

Gift from the Gods costs £9.95 and is available for the ZX Spectrum.

Ocean are at 6 Central St, Manchester M2 5NS.

Llovely Llaser Llight from Llama

Jeff Minter, the inscrutable four legged friend lover of Llamasoft has just launched a new product that promises to add a new dimension to light shows and other visual effects.

Called Psychadelia, the program cannot be labelled in the way that adventure, strategy, arcade, and all the various crossbreeds are. Being very difficult to describe it can best be thought of as something you perform on rather than play.

The ideal setting is in a dark room or party/disco where there is music playing. The user, or rather performer, can then play the computer to produce a fantastic light show that would pale into insignificance even the most sophisticated computer graphics that can be seen on Top of the Pops.

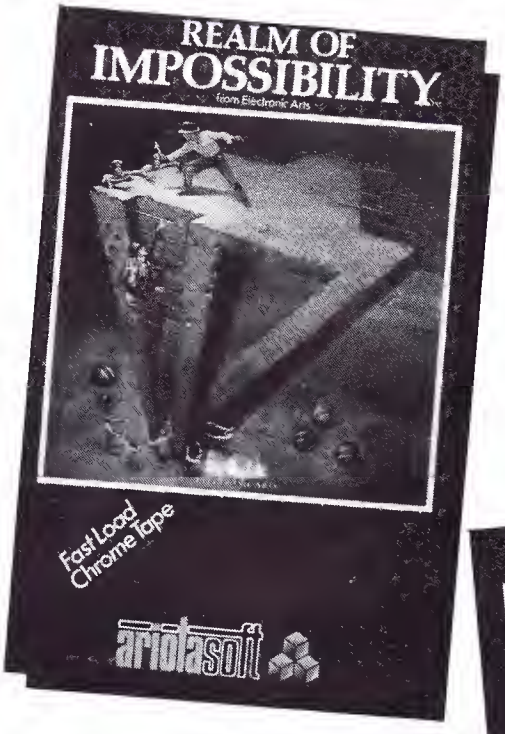
The performer can select various preset shapes to go on the screen, or design your own, and literally hundreds of options for speed and colour balance. When using the stick you can create whirls and fast moving patterns all over the screen. Almost all the parameters can be changed, leaving the performer to make all the creative input.

Fantastic effects can be achieved, as was shown by Jeff himself at the launch in a London pub. For 10 minutes the enthralled crowd watched the light show being performed to a compilation tape of currently popular music (which Mr Minter admitted he didn't really like, but the pressures of popular demand forced him. He much prefers Pink Floyd, Genesis, and Marillion). After the show the assembled members of the computer press gave the performer a much deserved round of applause — despite Jeff modestly claiming that he was no good at it!

Psychadelia is available now for the Commodore 64, VIC, and Commodore 16. Versions are possible for the Spectrum or Amstrad, but it is unknown whether they will be as good.

Llamasoft are at 37 Mount Pleasant, Tadley, Herts.

Record Breaking Ariolasoft



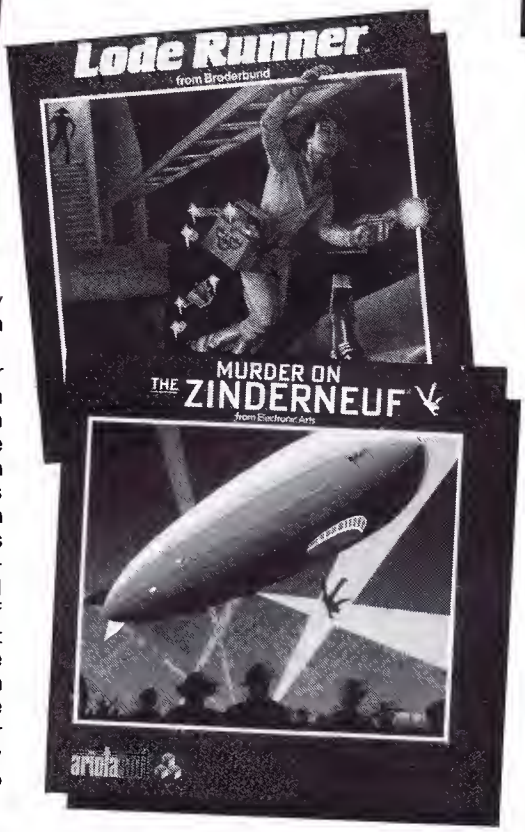
Ariolasoft is a new software company emerging from the giant Ariola/Arista record label.

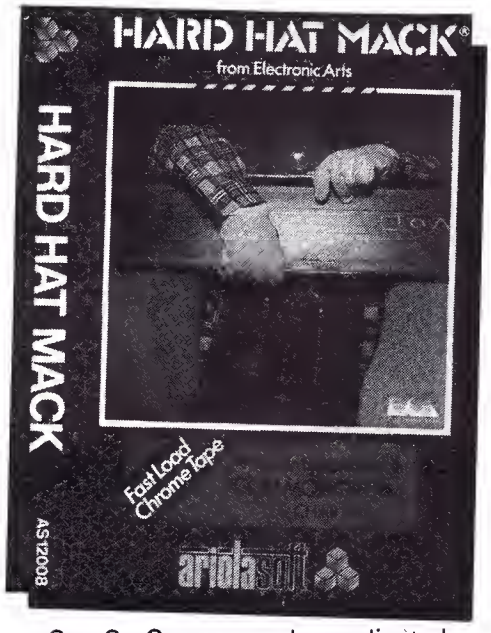
Arista are best known recently for producing the single and album 'Ghostbusters', from the film so much in the computer press recently. The company is following the common trend of selling old American programs in Britain at British prices. The American market being such that the hardware is up to half the price there but the software up to 10 times the price it is here (I think that we get the best deal out of that!). Ariolasoft will be selling the best American software of the past couple of years at around the £10 mark, with a luxury range at a bit higher. The American versions usually retail for around $35. This is why it is only now that the Americans are beginning to make an impact.

The first releases are for the Commodore 64 on tape or disk and include:

Choplifter, the original helicopter game where you must rescue the hostages, shoot down enemy planes and missiles, and avoid the tanks. You must search out the little men that run around the bottom of a scrolling Defender-like screen and return them across the border to the American Post Office that just happens to be there.

Lode Runner, this ladders-and-ramps game followed closely on the heels of the first game that spawned a genre, including the famous Manic Miner. The odd thing about this game was that it made the transition from the home into the Arcade as a nickle-in-slot machine, rather than the usual route of the other way around!





One-On-One may have limited appeal in the UK but it's great fun all the same. The game is based on basketball and has two superbly animated figures.

David's Midnight Magic is the odd name for a pinball simulation. Complete with tilt and all the features that pin heads have come to expect.

Raid on Bungling Bay is one of the sequels to Choplifter but is a totally different game concept, similar in some ways to Time Pilot '84 with the pilot flying his helicopter over a fully detailed terrain with enemy outposts and nasties trying to stop you all the way.

Also being released is **Spelunker, Hard Hat Mack,** and **The Realm of Impossibility.** A de-luxe range is also *being released, consisting of: Operation Whirlwind, Murder on the Zinderneuf, Archon,* and the unlikely sounding **M.U.L.E.**

All games are available for the Commodore 64, other versions may be released later on in the year. Prices for the standard range are £9.95 for tape and £12.95 for disk. The de-luxe range with bigger packaging, instruction and rule books, and more complex games cost £11.95 on tape and £14.95 on disk.

MONOPOLY

Monopoly and Cleudo to follow Scrabble

Leisure Genius, the company who marketed a version of Scrabble for the Apple and then, with Psion, converted it to run on the ZX Spectrum, have produced two new games based on the popular Monopoly and Cluedo games.

The original Scrabble was written as part of a thesis on word groupings by a student studying for a PhD.

Scrabble for the Spectrum went on to be one of the biggest selling Spectrum games. Leisure Genius is hoping for similar success with the Commodore 64 this year. The version of Monopoly is 'official' and is the reason that Waddingtons took some legal action around a year ago against some companies who were selling unlicenced copies. The official version promises to be a faithful reproduction with 'carefully designed apt theme tunes' say LG.

If you are into murder investigation then their version of Cleudo could be the answer. Again all the trappings of the 'real' thing are there and again what LG consider an 'apt' theme tune will warble along in the background.

Cluedo and Monopoly for the Commodore 64 with Spectrum and Amstrad to follow later in the year costs £12.95 on tape.

New - the official Spectrum Upgrade!

Turn your Spectrum into a Spectrum + for just £20

- Professional full-size keyboard – includes 17 extra keys.
- Responsive typewriter-style action.
- Accepts all current Spectrum software and peripherals.
- Complete with 80-page User Guide and Companion Cassette.

Here's some exciting news for 48K Spectrum owners ... the official Spectrum Upgrade Kit.

The £20 Kit has everything you need to turn your Spectrum into the stylish new Spectrum +. You don't even need an understanding of electronics, just the ability to solder a few wires together! The leaflet in the kit gives clear, step by step instructions.

If you're not sure about doing it yourself, don't worry. Simply return your 48K Spectrum to Sinclair and for £30 we'll upgrade it for you .

Whichever you decide on, you'll also receive the new 80-page User Guide and Companion Cassette.

The bigger, better Spectrum keyboard

The Spectrum + measures 12½" x 6". It has a large typewriter-style keyboard, with hard, moulded keys.

You'll find the new keyboard has a smooth, positive action – ideal for touch-typing, word processing, simulation programs, and extended programming sessions. Two retractable legs give a perfect typing position.

There are 58 keys in all, including 17 new keys. Programmers will be pleased to see dedicated punctuation keys, a space bar, and separate shift keys for graphics and extended modes. And a reset button allows you to clear a program from your computer's memory without disconnecting the power supply.

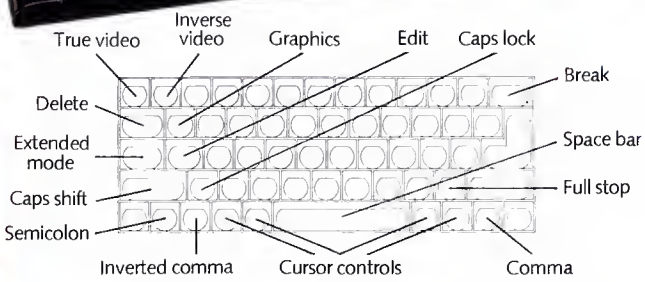
The official Spectrum Upgrade

Naturally your upgraded computer will accept all the peripherals in your Sinclair system - Interface 1, Microdrives and so on - as well as all Spectrum software.

Just as important, new Spectrum software and peripherals will be designed with the Spectrum + in mind. So the Sinclair upgrade adds stylish looks, new capabilities ... and new potential for the future.

Included – the new Spectrum + User Guide and Companion Cassette

The new User Guide has over 80 pages of information, including a handy BASIC dictionary. The Companion Cassette provides an interactive tour of the new keyboard, and includes three entertaining arcade games.



TO ORDER BY MAIL:

When ordering the Upgrade Service, send off your 48K Spectrum to the address below, carefully wrapped, together with the completed coupon and appropriate payment. (Please do *not* return the mains adaptor, manual or other ancillaries.) Your upgraded computer will be despatched to you within 10 days of receiving your order.

When ordering the Upgrade Kit, simply complete the coupon, enclosing the appropriate payment and post it to us at the address below. Please allow up to 28 days for delivery.

BY PHONE: Access or Barclaycard holders can call Camberley (0276) 685311 for personal attention, 9am to 5pm Monday to Friday. Only the Upgrade Kits can be ordered by phone.

Please note: the upgrade offer applies to working 48K Spectrum models in the UK only.

To: Sinclair Research Limited, Upgrade Dept., Stanhope Road, Camberley, Surrey, GU15 3PS.

All prices include VAT, post and packing, User Guide and Companion Cassette.

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OR
☐ Please upgrade my 48K Spectrum for me. I enclose my computer together with payment of £30.

I enclose a cheque/postal order payable to Sinclair Research Limited for £_____

OR

Please charge my Access/Barclaycard no.

Signature_____

PLEASE PRINT

Name: Mr/Mrs/Ms_____

Address_____

_____

GMC 503

Sinclair Research Limited,
Upgrade Department,
Stanhope Road, Camberley,
Surrey, GU15 3PS.

sinclair

RUNS ON CBM 64

Treasure Castle

The object of this adventure is to get into the castle, remove the jewel and crown and get out again.

You cannot get out the same way that you got in. You start outside the castle and have to cross a moat but be careful or you may drown.

Inside the castle there is a black knight and he can appear anywhere. If you are carrying something he will take it from you. If you are not carrying anything then he puts you in the dungeon. Scattered around the rooms are various objects which you can pick up, carry or put down. Some of the objects you pick up will enable you to kill the black knight.

One of the rooms is a dark room where you will not be able to find the exits without a lamp.

At any time you can find out what you are carrying by typing "INVENTORY".

The listing is plentifully supplied with REMS so that you can see exactly what each section does.

You can also get full instructions at the start including the commands the computer will obey.

```
5 REM*********************************
10 REM*                               *
15 REM*        TREASURE CASTLE        *
20 REM*                               *
25 REM*         BY J.HILLMAN          *
30 REM*                               *
35 REM*********************************
40 PRINT"DO YOU WANT INSTRUCTIONS?"
45 GETA$:IFA$=""THEN45
50 IFA$="Y"THENGOSUB1115
55 REM**SET UP ARRAYS FOR RESPONSES**
60 DIMP$(19),R(19)
65 FORK=1TO19:READP$(K),R(K):NEXT
70 DATA SWIM,5,EMPTY,6,LIGHT,7,QUIT,8,INVENTORY,9,KILL,10,SHOOT,10,HELP,11
75 DATA GET,2,TAKE,2,CARRY,2,PUT,3,LEAVE,3,DROP,3,PULL,4
80 DATA NORTH,1,SOUTH,1,EAST,1,WEST,1
85 REM**SET UP ARRAYS FOR OBJECTS**
90 READNB
95 DIM OB(NB),OB$(NB),SI$(NB)
100 FORI=1TONB:READOB(I),OB$(I),SI$(I):NEXT
105 DATA 11,17,BAG,A BAG OF COINS IS HERE
110 DATA 20,CHEST,CHEST OF ARMOUR
115 DATA 3,CROSSBOW,CROSSBOW IS HERE
120 DATA 8,AXE,AXE IS ON THE FLOOR
125 DATA 24,CROWN,CROWN IS IN CHEST
130 DATA 9,LAMP,YOU SEE A LAMP
135 DATA 0,BLACK KNIGHT,A BLACK KNIGHT THREATENS YOU
140 DATA 23,LEVER,LEVER ON WALL OPERATES ESCAPE
145 DATA 0,JEWEL,JEWEL IS HERE
150 DATA 21,ARMOUR,A SUIT OF ARMOUR IS ON THE GROUND
155 DATA 1,LOG,A LOG IS BY THE BANK
160 REM**START POSITION**
```

```
165 L=1
170 GOTO190
175 REM**FIND LOCATION**
180 PRINT"■"
185 IFINT(RND(1)*15+1)=1ANDBK=0THENOB(7)=L:BK=1
190 IFL<11THENONLGOSUB735,750,775,790,805,830,845,860,875,890:GOTO210
195 IFL<20THENONL-10GOSUB905,920,935,950,985,980,985,1010,1025:GOTO210
200 IFL<26THENONL-19GOSUB1040,1055,1070,1085,1105
205 REM**TO PRINT OBJECT IN APPROPRIATE LOCATION**
210 FORI=1TONB:IFOB(I)=L THENPRINTSI$(I)
215 NEXT
220 REM**DISPLAY DIRECTION**
225 IFL<>5ORLA=1ANDOB(6)=-1THENPRINT:PRINT"■YOU CAN GO ■";:GOTO235
```

```
230 GOTO260
235 IFN>0THENPRINTTAB(11);"NORTH"
240 IFE>0THENPRINTTAB(11);"EAST"
245 IFS>0THENPRINTTAB(11);"SOUTH"
250 IFW>0THENPRINTTAB(11);"WEST"
255 REM**INSTRUCTIONS**
260 PRINT:INPUT"■WHAT NOW■";I$
265 GOSUB660
270 IFOB(7)=LANDI<>10THEN610
275 REM**M -N**
280 IFI=0THENGOTO290
285 ONIGOTO300,370,415,450,510,535,560,465,335,590,715
290 PRINT:PRINT"I DON'T KNOW HOW TO ";V$:GOTO210
295 REM**MENT R■INE**
300 IFI$="N"ANDN>0THENL=L-6:GOTO180
305 IFI$="E"ANDE>0THENL=L+1:GOTO180
310 IFI$="S"ANDS>0THENL=L+6:GOTO180
315 IFI$="W"ANDW>0THENL=L-1:GOTO180
320 REM**IF NO LOCATION POSSIBLE IN -JECTION**
325 PRINT:PRINT"SORRY-YOU CAN'T GO THAT WAY!!":GOTO180
330 REM**INVENTORY**
335 PRINT"■YOU HAVE:■ ":IN=0
340 FORG=1TONB
345 IFOB(G)= 1THENPRINTTAB(10)OB$(G):IN=IN+1
350 NEXT
355 IFIN=0THENPRINT"NOTHING HERE"
360 GOTO190
365 REM**GET**
370 FORG=1TONB
375 IFN$=LEFT$(OB$(G),LEN(N$))THEN350
380 NEXT
385 PRINT" I DON'T UNDERSTAND ";N$:GOTO190
390 IFOB(G)=-1THENPRINT"YOU'VE GOT IT":GOTO190
395 IFOB(G)<>LTHENPRINT"IT ISN'T HERE":GOTO190
400 PRINT"■OK■":OB(G)=-1
405 GOTO180
410 REM**DROP**
415 FORG=1TONB
420 IFN$=LEFT$(OB$(G),LEN(N$))THEN430
425 NEXT.PRINT"I DON'T UNDERSTAND "N$:GOTO190
430 IFOB(G)<>-1THENPRINT"YOU HAVEN'T GOT IT":GOTO190
435 PRINT"OK":OB(G)=L
440 GOTO150
445 REM** PULL **
450 IN=0:IFN$=LEFT$("LEVER",LEN(N$))THENIN=1
455 IFIN=1ANDL<>23THENPRINT"NOTHING HAPPENS":GOTO190
460 IFIN< 1THEN PRINT" YOU CAN'T PULL THAT!":GOTO190
```

```
465 IFOB(5)=-1ANDOB(8)=-1THEN480
470 PRINT" YOU FALL INTO A PIT AND DROWN":GOTO485
475 REM**END OF ADVENTURE**
480 PRINT"WELL DONE.YOU'VE COMPLETED THE ADVENTURE"
485 PRINT:PRINT"■DO YOU WANT ANOTHER GAME(Y/N)?"
490 GETA$:IFA$<>"Y"ANDA$<>"N"THEN490
495 IFA$="Y"THENRUN
500 PRINT"■■":POKE53280,14:END
505 REM**SWIM**
510 IFL<>2THENPRINT"IN WHAT?":GOTO225
515 IFL=2ANDOB(11)=-1THENN=0:E=0:S=1:W=0
520 IFOB(10)=-1THENPRINT"WHAT A SHAME YOU DROWNED":GOTO485
525 PRINT" YOU GET WET":N=0:E=0:S=0:W=0:GOTO330
530 REM**EMPTY**
535 IN=0:IFN$=LEFT$("BAG",LEN(N$))THENIN=1
540 IFIN<>1THENPRINT" YOU CAN'T EMPTY THAT":GOTO330
545 IFOB(1)<>-1THENG=1:GOTO430
550 PRINT" THE COINS ROLL OVER THE FLOOR":OB(9)=L:GOTO370
555 REM**LIGHT**
560 IN=0:IFN$=LEFT$("LAMP",LEN(N$))THENIN=I
565 IFIN<>1THENPRINT" YOU CAN'T DO THAT":GOTO330
570 IFOB(6)<>-1THENG=6:GOTO1270
575 IFLA=1THENPRINT"IT'S ALREADY LIT":GOTO330
580 LA=I:PRINT"OK":GOTO330
585 REM**SHOOT**
590 IFOB(3.)<>-1THENPRINT" WITH WHAT?":GOTO320
595 IFOB(7)<>LTHENPRINTV$;" WHO":GOTO320
600 PRINT" YOU KILLED THE ";OB$(7):OB(7)=0:GOTO330
605 REM**BLACK KNIGHT**
610 IN=0:CB(7)=2
615 FORK=1TO6
620 IF OB(K)=-1THENIN=1:K=
625 NEXT
630 IFIN<>0THEN645
635 PRINT" AS YOU DIDN'T HAVE ANYTHING HE LOCKS"
640 PRINT" YOU IN A DEEP DUNGEON":GOTO485
645 K=INT(RND(1)*NB+1):IFOB(K)<>-1THEN645
650 PRINT"HE TAKES THE ";OB$(K);" AWAY FROM YOU":OB
  (K)=0:GOTO330
655 REM**CHECK INSTRUCTION**
660 N$="":FORZ=1TOLEN(I$):IFMID$(I$,Z,1)=" "THENI=Z:
    GOTO670
665 NEXT:Z=0
670 IFI=0THENV$=I$:GOTO685
675 V$=LEFT$(I$,I-1)
680 N$=MID$(I$,I+1)
685 I=0
```

```
690 FORK=1TO19
695 IFV$=LEFT$(R$(K),LEN(V$))THENI=R(K):I$=LEFT$(V$,1)
700 NEXT
705 RETURN
710 REM**HELP**
715 IFL<>7ORQB(2)-1THENPRINT"SORRY,I CAN'T HELP YOU HERE!":GOTO330
720 PRINT"ARMOUR WEIGHS YOU DOWN":GOTO330
725 REM**LOCATION DESCRIPTION**
730 REM**LOCATION 1**
735 PRINT"YOU ARE OUTSIDE THE CASTLE
740 N=0:E=1:S=0:W=0:RETURN
745 REM**LOCATION 2**
750 PRINT"YOU ARE IN THE MOAT"
755 IF QB(11)<>-1THEN N=0:E=0:S=0:W=0
760 IF QB(11)<>-1THENPRINT"YOU DROWNED":FORI=0TO1000:NEXT:RUN
765 N=0:E=0:S=1:W=0:RETURN
770 REM**LOCATION 3**
775 PRINT"YOU ARE ON THE STAIRS"
780 N=0:E=1:S=1:W=0:RETURN
785 REM**LOCATION 4**
790 PRINT"YOU ARE ON THE BATTLEMENTS"
795 N=0:E=1:S=1:W=1:RETURN
800 REM**LOCATION 5**
805 PRINT"YOU ARE IN A DARK ROOM"
810 IFQB(6)<>-1ORLA<>1THENN=0:E=0:S=0:W=0
815 IFQB(6)<>-1ORLA<>1THENPRINT"TOO DARK TO SEE THE EXITS":RETURN
```

```
820 N=0:E=1:S=1:W=1:RETURN
825 REM**LOCATION 6**
830 PRINT"YOU ARE IN AN EMPTY ROOM"
835 N=0:E=0:S=1:W=1:RETURN
840 REM**LOCATION 7**
845 PRINT"YOU ARE IN THE GUARDROOM"
850 N=0:E=1:S=1:W=0:RETURN
855 REM**LOCATION 8**
860 PRINT"YOU ARE IN THE HALL"
865 N=1:E=1:S=1:W=1:RETURN
870 REM**LOCATION 9**
875 PRINT"YOU ARE IN THE CUPBOARD"
880 N=1:E=0:S=1:W=1:RETURN
885 REM**LOCATION 10**
890 PRINT"YOU ARE IN A TURRET"
895 N=1:E=0:S=1:W=0:RETURN
900 REM**LOCATION 11**
905 PRINT"YOU ARE IN THE DINING HALL"
910 N=1:E=1:S=1:W=0:RETURN
915 REM**LOCATION 12**
920 PRINT"YOU ARE IN THE KITCHEN"
925 N=1:E=1:S=1:W=1:RETURN
930 REM**LOCATION 13**
935 PRINT"YOU ARE IN THE DUNGEON"
940 N=1:E=0:S=0:W=0:RETURN
945 REM**LOCATION 14**
950 PRINT"YOU ARE IN THE CHAPEL"
955 N=1:E=1:S=1:W=0:RETURN
960 REM**LOCATION 15**
965 PRINT"YOU ARE IN THE LARDER"
970 N=1:E=1:S=1:W=1:RETURN
975 REM**LOCATION 16**
980 PRINT"YOU ARE ON THE STAIRS"
985 N=1:E=1:S=1:W=1:RETURN
990 REM**LOCATION 17**
995 PRINT"YOU ARE IN THE LIBRARY"
```

```
1000 N=1:E=1:S=1:W=1:RETURN
1005 REM**LOCATION 18**
1010 PRINT"YOU ARE IN THE CELLAR"
1015 N=1:E=0:S=1:W=0:RETURN
1020 REM**LOCATION 19**
1025 PRINT"YOU ARE IN THE BEDROOM"
1030 N=0:E=1:S=0:W=0:RETURN
1035 REM**LOCATION 20**
1040 PRINT"YOU ARE IN AN EMPTY ROOM"
1045 N=1:E=1:S=0:W=1:RETURN
1050 REM**LOCATION 21**
1055 PRINT"YOU ARE IN THE ARMOURY"
1060 N=1:E=0:S=0:W=1:RETURN
1065 REM**LOCATION 22**
1070 PRINT"YOU ARE IN THE WINE CELLAR"
1075 N=1:E=0:S=0:W=0:RETURN
1080 REM**LOCATION 23**
1085 PRINT"YOU ARE IN THE SECRET ROOM"
1090 N=1:E=0:S=0:W=0:RETURN
1095 REM**LOCATION 24**
1100 PRINT"LOCATION 24**
1105 PRINT"YOU ARE IN THE STRONGROOM"
1110 N=1:E=0:S=0:W=0:RETURN
1115 REM**INSTRUCTIONS**
1120 PRINT:PRINTTAB(12)"INSTRUCTIONS"
1125 PRINT:PRINTTAB(11)"TREASURE CASTLE"
1130 PRINT"                              "
```

```
1135 PRINT" THE OBJECT IS TO COLLECT THE CROWN      AND JEWEL.THEN REMOVE";
1140 PRINT" THEM FROM THE         CASTLE"
1145 PRINT" THE COMPUTER UNDERSTANDS THE FOLLOWING      COMMANDS:-"
1150 PRINTTAB(2)"CARRY,GET,TAKE,PUT,LEAVE,DROP,PULL"
1155 PRINTTAB(2)"SWIM,EMPTY,LIGHT,QUIT,INVENTORY,KILL,     HELP"
1160 PRINT:PPINT"  THE BLACK KNIGHT CAN APPEAR ANYWHERE"
1165 PRINTTAB(8)"PRESS ANY KEY TO CONTINUE"
1170 GETA$:IFA$=""THEN1170
1175 RETURN
READY.
```

VIDEO VYING

By Sue Bartlett

GYRUSS

Runs on: Atari VCS
Made by: Parker/Silica Shop
Price: £12.00

The concept of this game is to battle your way across the Universe from the far away Neptune to the safe haven of earth.

You have to fend off waves of spiraling, swirling alien ships by piloting your spacecraft in a circular flight pattern, blasting the intruders with your rapid-fire lasers before they blast you.

Killer meteors and deadly satellites are also after you. Once you reach one planet, you have a few seconds to rest before you take off to destroy the next wave of attackers.

Although the concept of Gyruss is very basic, it does have some good 3D effects. But, the best feature of the game is its music. Throughout the game Toccatta and Fuge by Bach can be heard, and it is the best music I have heard on a video game.

This music makes the game much more dramatic and exciting than it actually is — it is almost worth buying the cartridge just to listen to the music!

STRATEGY X

Runs on: Atari VCS
Made by: Gakken/Silica Shop
Price: £6.95

Your mission, as usual in a war game, is to attack and destroy the enemy. You move forward in your little red tank by destroying the blocks in your path. If your tank moves onto a green zone it will start to slip and use more fuel.

It is a good idea to move round to the side or behind the enemy gun position so that it can not shoot at you and it is easier to destroy.

An alarm will sound when you are running out of fuel, but if you manage to re-fill you can get through enemy lines and pass under the triumphal arch — and get onto the next screen.

In order to re-fuel your tank you must move on top of the fuel tank — the fuel gauge will then indicate full.

In scene two enemy aircraft make a surprise attack. You must shoot them down whilst avoiding missiles from planes zig-zagging above you. This time if you move onto the orange zone, you slip and lose petrol.

You add to your score by moving forward, destroying blocks and gun positions and shooting down aircraft. You lose one of your three tanks by colliding with a block, by being hit by a shell or missile, or by running out of fuel.

Strategy X is not one of the best battlefield games around. It has unrealistic graphics, although I like the way the tank moves along, but at the price who can complain!

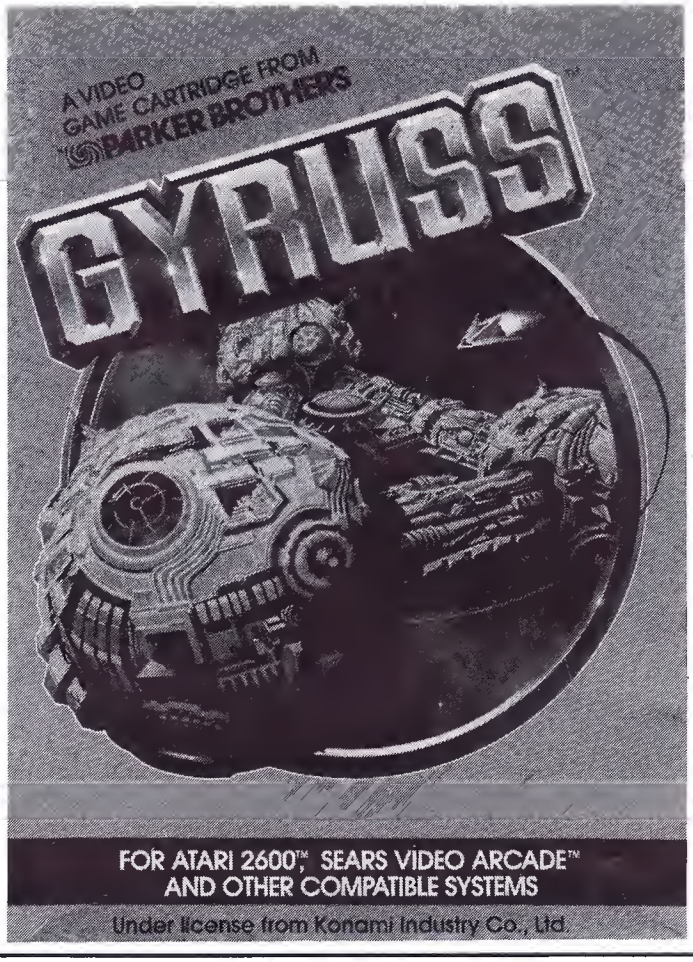
MARINE WARS

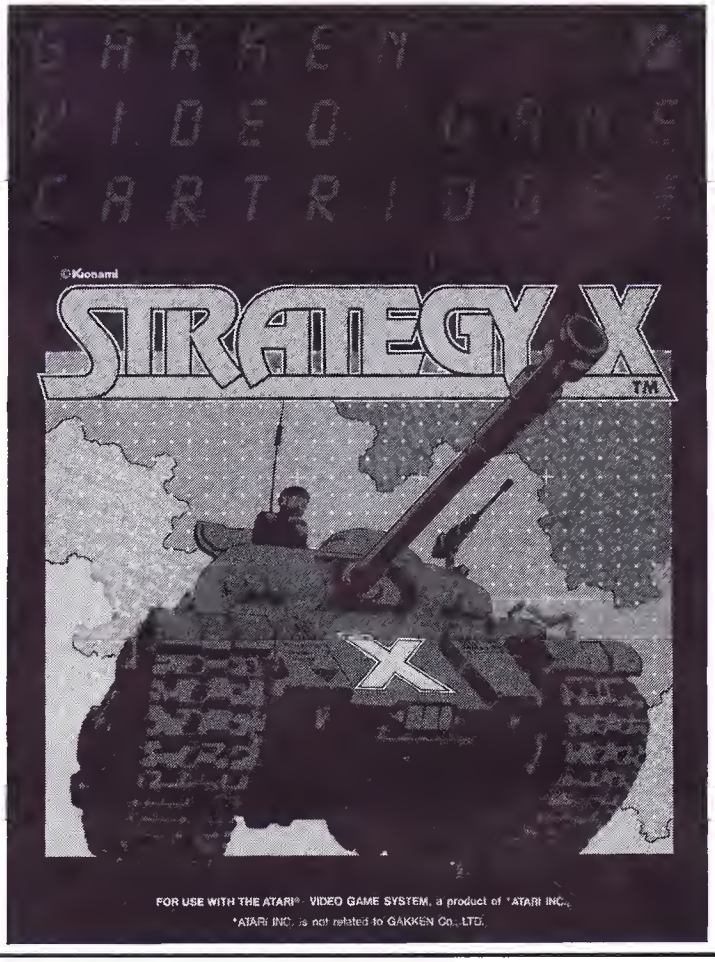
Runs on: Atari VCS
Made by: Gakken/Silica Shop
Price £6.95

Marine wars consists of four scenes — a fight between battleships by day and by night and a battle between fighters and battleships by day and by nights.

At night you can not see the top row of enemy ships, but when a shell hits a ship and explodes the screen will light up for four seconds and the ships will appear. The enemy starts out with nine battleships and 30 fighter aircraft. You begin with three battleships.

The joystick is used to move your battleship to the left and right, and to fire shells at enemy ships and planes. If you fire a shell when you ship is moving, the shell will go in the opposite





VIDEO VING

direction to where the ship is heading.

Points are awarded when you hit any battleship, an enemy fighter, an enemy torpedo, an enemy bomb and an enemy MTB.

Although this game is fairly simple, it does have some effective graphics and is also very colourful.

POOYAN

Runs on: Atari VCS
Made by: Gakken/Silica Shop
Price: £9.95

In this game you are Mama Pig protecting her little piglets — Pooyans — from a fierce pack of wolves.

The first task Mama has to cope with to save her Pooyans is that of bursting the wolves' balloons with arrows as they come floating down into the valley. She can also make the wolves fall by throwing the bait that appears at the top of the valley. When the wolves try to grab the bait, they let got of their balloons and so fall down into the valley.

If the wolves float down to the bottom of the valley, they will climb some steps and attack Mother Pig from behind. The wolves defend themselves with shields and attack by throwing stones.

In the second scene wolves float up from the bottom of Wolf Valley with their balloons and Mama tries to stop them using arrows and bait. When six wolves reach the top, they can start dropping large rocks on Mother Pig! To prevent them doing this you must destroy 'boss wolf'.

Points are awarded if Mother Pig hits a balloon, wolf or stone with an arrow or the bait.

Although it is fairly difficult to make out the shape of the pigs, the wolves are graphically very good and I like the way they push the rocks in Round 2.

STAR WARS

Runs on: Atari VCS
Made by: Parker/Silica Shop
Price: £12.00

Yours mission in this game is to destroy a swarm of Imperial Tie Fighters, a barage of fireballs and a maze of laser towers before finally blasting the Death Star from existence.

In Round one you will meet the Imperial fleet made up of Tie fighters armed with deadly fireballs. You will occasionally see Darth Vaders ship — if you blast it with proton topedoes you gain extra points.

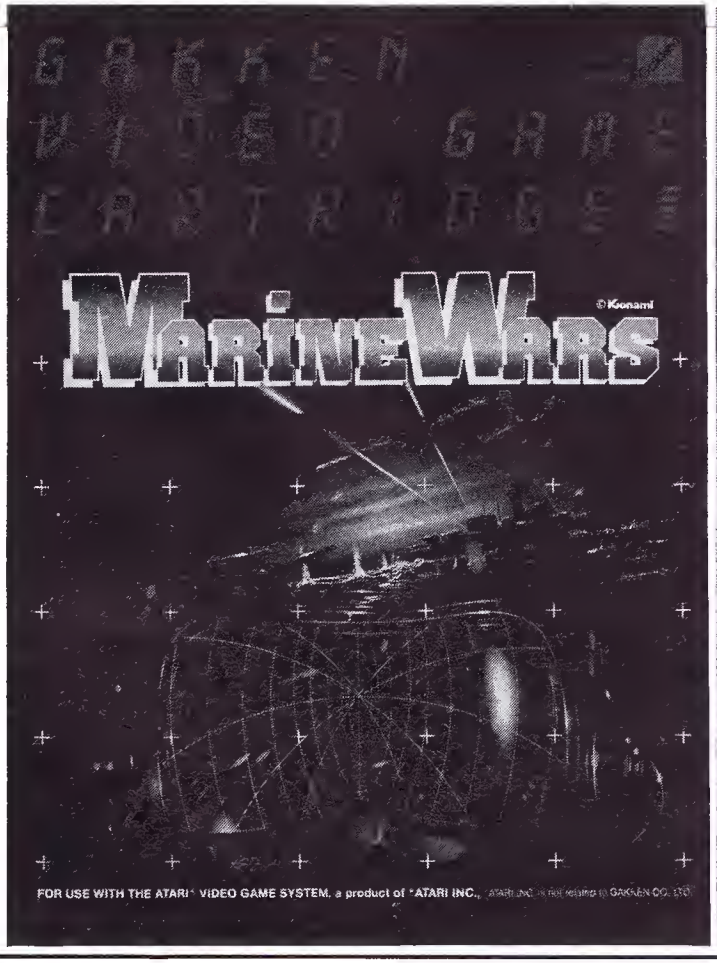
In Round two you move along the surface of the Death Star, until you become caught in a maze of laser towers. You and your X-wing fighter have to move between the towers and at the same time blast them with your torpedoes. Deadly fireballs are still after you so you have to watch out for these as well.

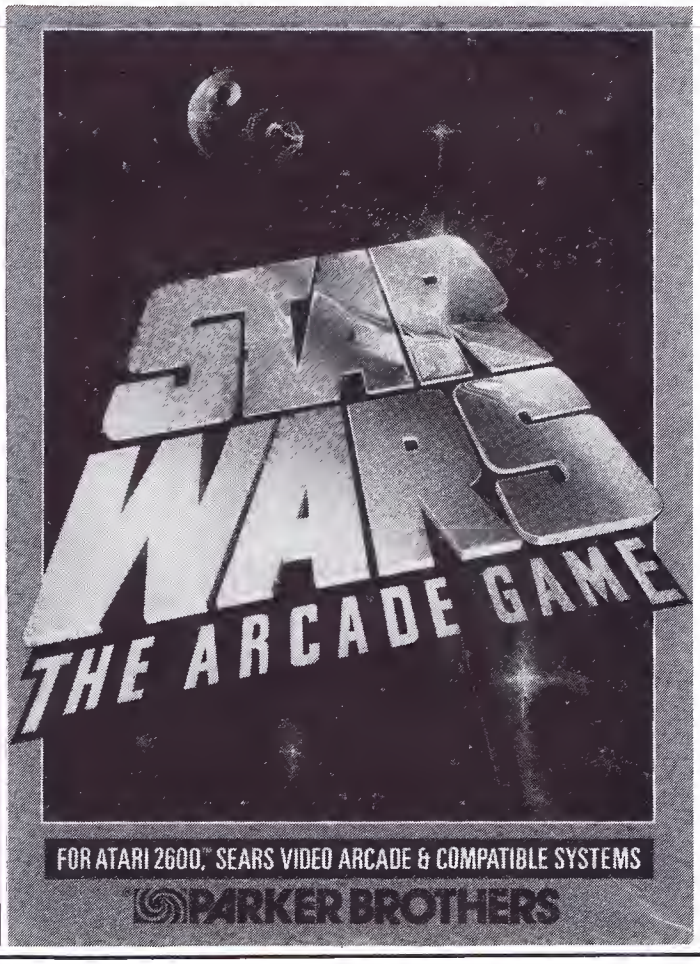
In Round three you reach the Death Star's Equatoral Trench. You have to make your way through a narrow passageway, flying over, under and around catwalks — and the fireballs are still chasing you!

Once you have made it past all the catwalks, you will see the Main Reactor Port. If you make a direct hit with one of our proton torpedoes, the Death Star explodes.

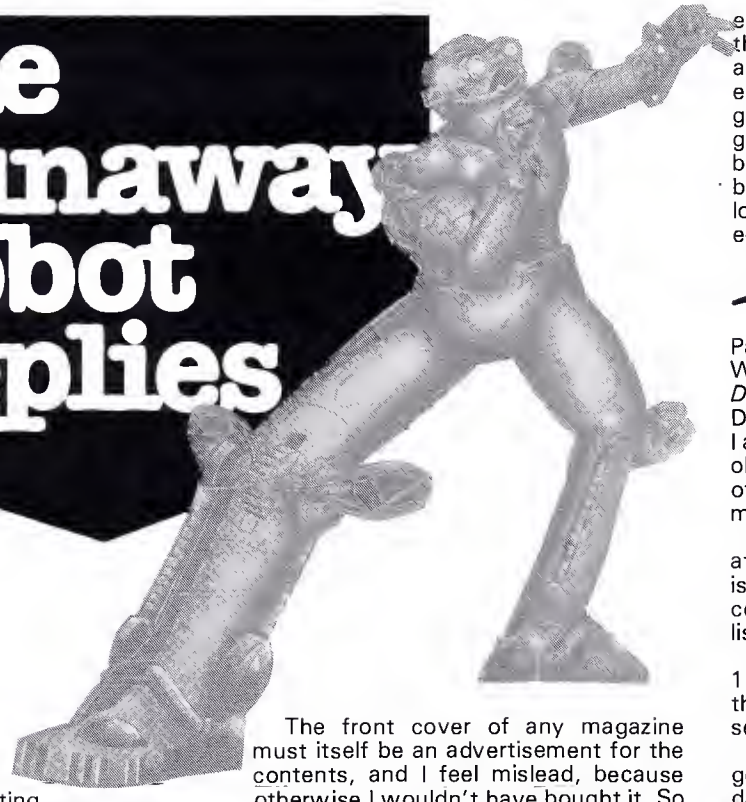
The Rebel Base is once again safe from the forces of the Empire. At this point you advance to the next wave. The game ends when you run out of energy shields and are hit by a fireball, tower or catwalk.

Star Wars is a very enjoyable game with good music noises and 3D effects.





The Runaway Robot Replies



Dear Games Computing
Can any readers possibly help me. My problem is that I can't get any further in Sphinx Adventure (BBC, Acornsoft), so far I've collected all objects pas the crocidile eg. coins, opels, mythical ring, pearls, and other objects such as: silver diamonds, sapphires, emeralds, rubies, platinum, dragon's teeth and all other items that are essential near the crocodile and the clam.

So how do I get to the desert or are there any other items required. I would be very grateful if somebody could help me.
Yours faithfully
Andrew Oxer
Camberton
We have been getting a lot of letters like these over the past few months, enough to almost take over the entire letters page at time! So we are considering having an adventure help spot every now and then, or even regularly if possible. So if anybody has a problem or a solution to a problem like this one that stuck them for ages then write to us at our Golden Sq address.
Dear Sir
I was looking at the buyers guide in the December issue of Games Computing and found that the model BBC Model B micro computer is now £3.99.
Rupert Cook
Eastbourne
Er. . . Umm. . Yes we seemed to have missed the point on that one. . .

Dear Sir
I PROTEST!

Being in a bit of a hurry I snatched your December issue from the shelves of my local, noticing the appetizer on the front cover which suggested that I might find a listing for the Amstrad. But when I got home, the contents couldn't tell me where to find one. A thorough search revealed that the only mention of this machine was within the Buyers Guide, and that didn't do it justice.

The front cover of any magazine must itself be an advertisement for the contents, and I feel mislead, because otherwise I wouldn't have bought it. So how about a double helping for the growing band of enthusiastic Amstrad owners in the next available issue?
Yours faithfully
Mike Anders
Newport
Sorry, our covers are made up some time before the magazine is printed, so in the mean time a catastrophe may occur, such as a program found to be bugged or any other reason for not being able to publish it.

Rather than print a program that doesn't work etc. we have to pull it out.

However the contents list is 100% accurate most of the time and a quick glance at that will show clearly in large letters what machines are catered for and what the program is called, what it does etc. So I recommend you have a quick look at pages 4 and 5 before buying.

Did you enjoy 'Puss in Boots' in our January issue for the Amstrad?
Dear Editor,
I am getting a Commodore 64 for Christmas and I would like some advice on adventure games. I am very interested in adventures and I prefer graphical adventures. I am already very interested in the Marvel comics adventures.I have already bought Questaprobe. I would also like advice on which joystick to bye. It should be able to stand up to games like Decathlon but versatile enough to play conventional games such as Skramble and Ghostbusters (which I have played and think is the best arcade/adventure game I have ever experienced). I also think the sound on the Commodore 64 is almost as good as the Atari machine. I previously owned a Commodore Vic-20 and found it good for programming etc. but the games side was quite poor. I had problems with a 16k ram pack which I bought from Chromasonic. Every time I loaded a 16k game the machine crashed and the screen froze.

Paul Donlan
Westhoughton
Does anybody have any advice?
Dear Sir
I am writing on behalf of my twelve year old son who is not only a proud owner of a Vic 20 but is an avid reader of your magazine "Games Computing".

The latest issue available in Australia at this time, is your September 1984 issue which have caused him some concern with one of your Vic 20 programs listed on page 18 (Jump Jack)

Firstly, the "RUNDOWN" on page 18 for Program 1 does not agree with the actual program on page 20 and secondly Program 2 will not run.

Having spent many hours trying to get the overall progam to run (which to date has not been successful), he has asked that I write to you asking for assistance.

(Maybe your October issue advised of the correction!)

Awaiting your reply.
Yours faithfully
B.H.Watson
Australia
The program was printed correctly, but you are correct in saying that the RUNdown does not agree with the listing.

What happened was that when it came round to geting the listing off the tape the tape had corrupted. The author sent us another version, but he had improved it, thus some of the lines were missing and others were added. If you just type in the listing all will be well.
Dear Sir
Regarding an item called 'Megamania Madness' on high scores in the October'84 issue I would like to inform you of mine for Zaxxon on the Commodore 64 (US Gold) which is 2520660 undefeated.

This could have been higher, but I got bored. Also at some stage in the game it was found that I could not be destroyed by any means i.e. missiles, running into walls, etc. I anticipate that it was when I clocked one million but I could not be sure (it could be a bit more or it could be a bit less). The high score contained 57 confrontations with Zaxxon.
Yours
R S Hancock
Southsea
Hants
What can we say but congratulations!

Have you got any opinions to air, has someone somewhere upset you and you want to grizzle and gripe? Or maybe you're full of the joys of spring and feel like telling a happy story?
Whatever you want to say, be it good, bad or indifferent drop us a line here at Games Computing and get it off your shoulders.
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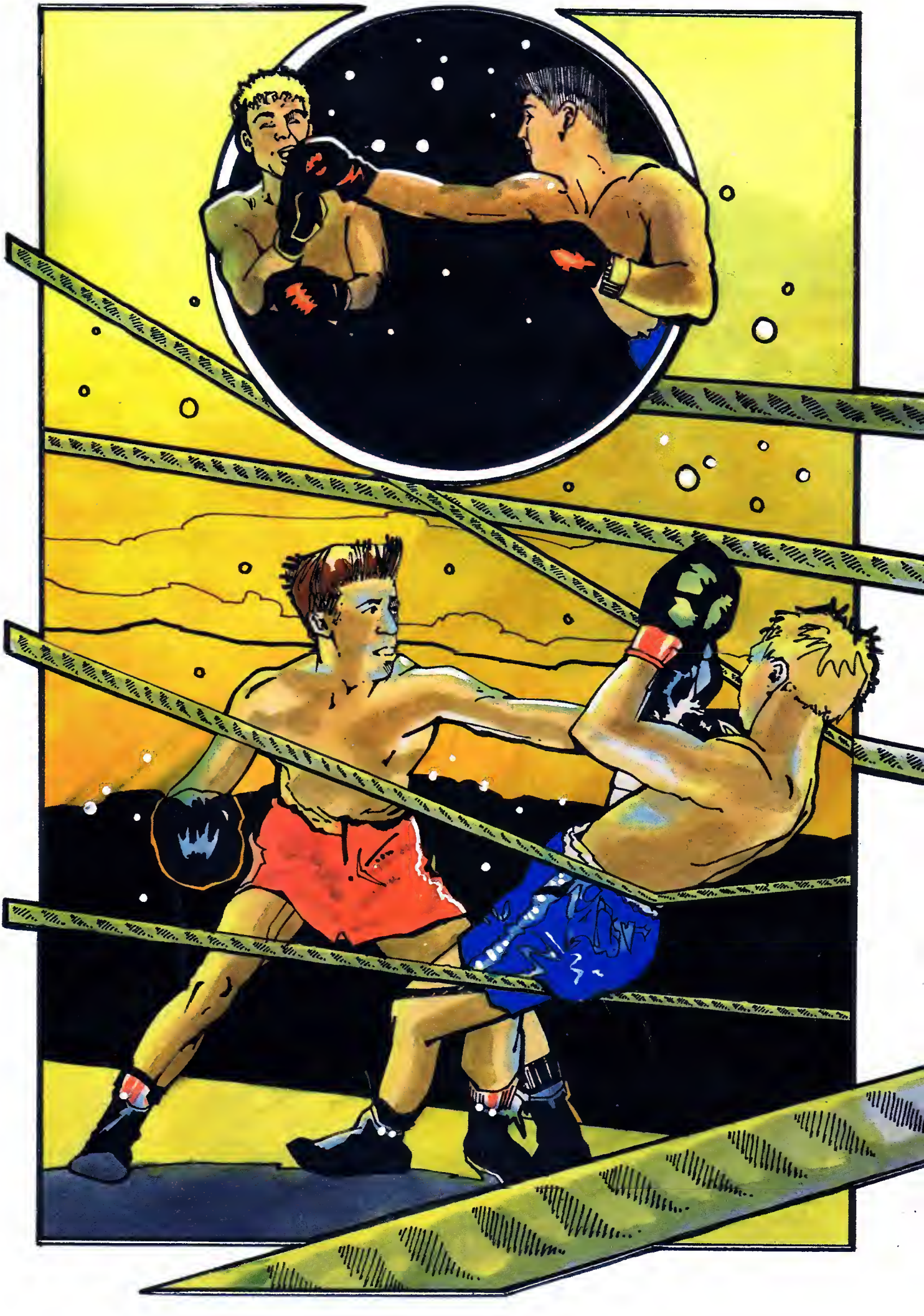


RUNS ON SPECTRUM

BOXING

In this game for the 48K ZX Spectrum you can try to batter hell out of such well known opponents as Ali, Bruno and Rocky. You can control the movement of your figure on the screen as he runs around the ring jabbing and punching your antagonist.

Control keys are 1 and 0 for left and right movement with M to throw a punch. The game is played out in full graphics with the multi-coloured boxers standing four character cells high.

Ding, ding, round one. . . .

RUNdown

Lines	Action
10-50	Prints ring.
60-210	Prints boxers.
220-225	Movements of players boxer.
226-233	Punches of both boxers.
1500-2000	Prints punch.
3000-3025	Asking for name of boxer.
3040-3070	Using the variable 'H' to get the name of the computer boxer.
3700	Printing the names of the 2 boxers.
4011-4513	Printing the boxers after being hit down.
4720-5050	Printing success rate.
5070	Printing "You are the new World Champion".
7000-8000	Asking if you want another go.
8030-8190	Instructions.
8600	The knockout.
8700	Players boxer being hit down.
8710-8900	Seeing if fight has been stopped.
8990-9969	UDG's.

Variables Used

O,A,B	Ring
F	Computers boxers position.
Y	Is movement of computer's boxer.
G	Position of players boxer.
HIT	The strength of players punch.
PUNCH	The strength of computer's punch.

The main difference from other computers are the sono and graphics. Also when I have put 'Randomise USR 0' just replace it with an END statement.

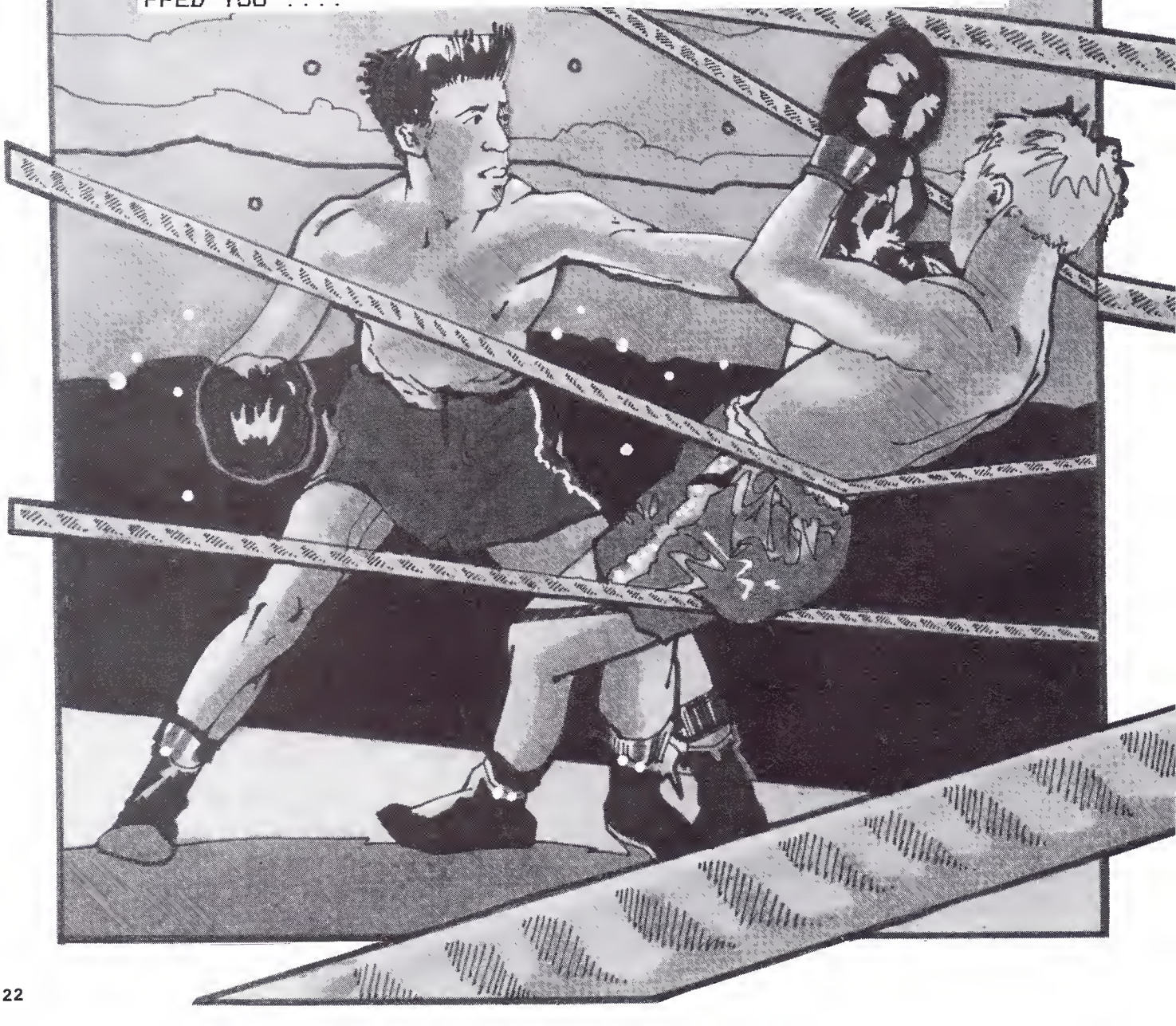
PAUL DESMOND '85

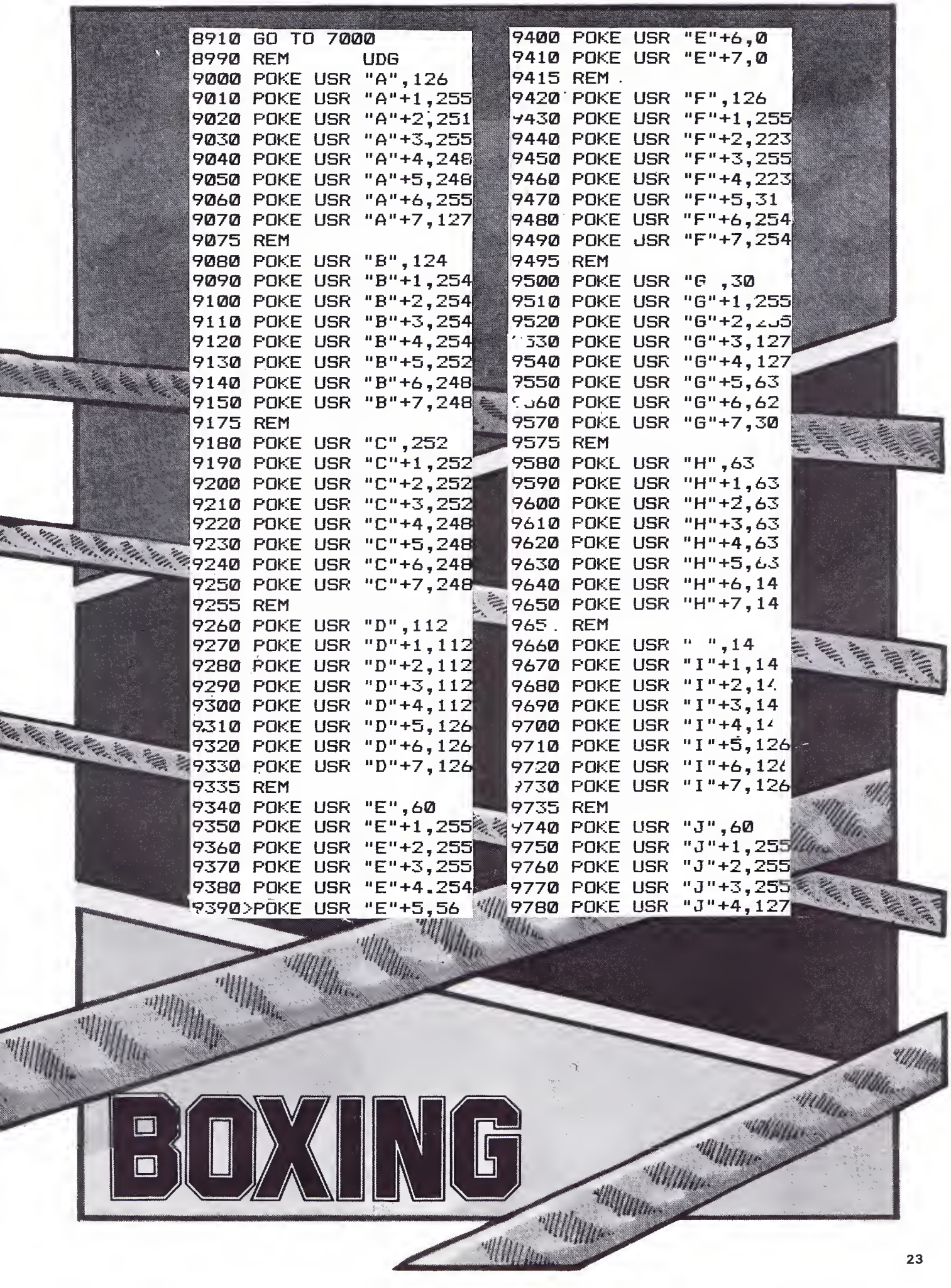
BOXING

```
   1 BRIGHT 1: PAPER 1: CLS : BORDER 1: INK 7: POK
E 23658,8: POKE 23609,10: GO SUB 9000
   2 GO TO 8000
   4 GO SUB 3000
   6 LET W=0
  10 FOR A=5 TO 25: FOR O=15 TO 20:
  12 LET G=22
  20 PRINT AT O,A; INK 7; INK 6; BRIGHT 1;"▀▀"
  30 NEXT O
  35 NEXT A:
  40 FOR B=13 TO 15
  45 PRINT AT B,5; INK 2; BRIGHT 1;"▀▀";AT B,25; INK 5;
BRIGHT 1;"▀▀"
  50 NEXT B
  60 LET F=7
  70 PRINT AT 14,F; INK 6; BRIGHT 1;" ▙ ";AT 13,F; INK
2; BRIGHT 1;" ▛ ";AT 12,F; INK 6; BRIGHT 1;" ▟ ";AT 11,
F;" ▜ "
  80 LET V=INT (RND*3)
  82 IF V=1 THEN  LET F=F+1
  85 IF V=0 THEN  LET F=F-1
  86 IF V=2 THEN  GO SUB 1500
  87 IF F<7 THEN  LET F=7
  88 IF F>23 THEN  LET F=23
 210 PRINT AT 14,G; INK 6; BRIGHT 1;" ▟ ";AT 13,G; INK
5;" ▜ ";AT 12,G; INK 6; BRIGHT 1;" ▙ ";AT 11,G; BRIGHT
1;" ▛ "
 220 IF INKEY$="0" THEN  LET G=G+1
 225 IF INKEY$="1" THEN  LET G=G-1
 226 LET HIT=INT (RND*6): LET PUNCH=INT (RND*6)
 227 IF G-2=F AND INKEY$="M" AND HIT=3 THEN  GO SUB 860
0
 230 IF INKEY$="M" THEN  BEEP .008,7: GO SUB 2000
 231 IF G-2=F AND INKEY$="M" THEN  GO SUB 4000
 232 IF F+2=G AND V=2 AND PUNCH=3 THEN  GO SUB 4500
 233 IF F+2=G AND V=2 THEN  GO SUB 8700
 235 IF G>=22 THEN  LET G=22
 236 IF G<=6 THEN  LET G=6
 240 GO TO 70
1500 BEEP .008,7: PRINT AT 12,F+2; INK 6; BRIGHT 1;"▀▀";
AT 12,F+3; INK 2; BRIGHT 1;"▜";AT 12,F+2; INK 6; BRIGHT
 1;"▀▀";AT 12,F+3; INK 2; BRIGHT 1;"▜": PAUSE 1: PRINT A
T 12,F+2;"  "
1550 RETURN
2000 PRINT AT 12,G-1; INK 5; BRIGHT 1;"▜";AT 12,G; INK
6; BRIGHT 1;"▀▀": PAUSE 2: PRINT AT 12,G-1; INK 5; BRIGH
T 1;"▜";AT 12,G; INK 6; BRIGHT 1;"▀▀": PAUSE 2: PRINT AT
 12,G-1;"  "
2010 RETURN
3000 CLS
3010 PRINT "WHAT DO YOU WANT TO CALL HIM?"
3020 INPUT N$
3025 CLS
3040 LET H=INT (RND*4)
3045 IF H=0 THEN  LET A$="FRANK BRUNO"
3050 IF H=1 THEN  LET A$="ROCKY"
3060 IF H=2 THEN  LET A$="HENRY COOPER"
3070 IF H=3 THEN  LET A$="MUHAMID ALI"
```

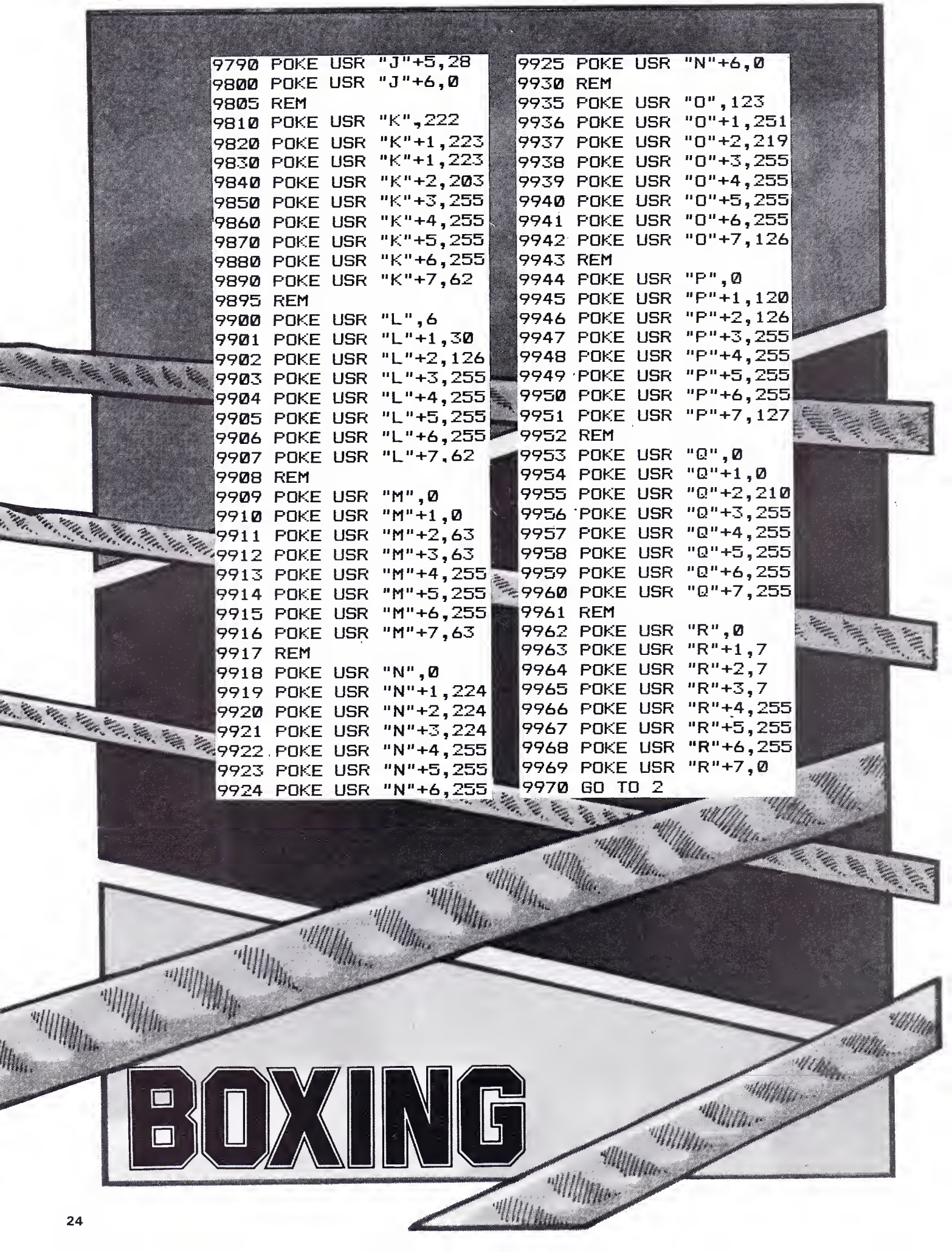
```
3700 PRINT AT 3,0; INK 5; BRIGHT 1;"IN THE BLUE CORNER
IS ";TAB 4;N$;AT 6,0; INK 2; BRIGHT 1;"AND IN THE RED C
ORNER IS ";TAB 4;A$
3710 PAUSE 300
3720 CLS
3730 RETURN
4011 PRINT AT 11,F;"  ";AT 12,F; INK 6; BRIGHT 1;"▟▙ ";A
T 13,F; INK 6; BRIGHT 1;"▐▌ ";AT 14,F; INK 2; BRIGHT 1;"
▐▌";AT 14,F+1; INK 6; BRIGHT 1;"▗▟": BEEP 1,-11: FOR C=0
TO 50: NEXT C
4020 GO TO 4700
4110 PAUSE 10: PRINT AT 1,0;"THE WINNER IS ";N$
4510 PRINT AT 1,0;"THE WINNER IS ";A$
4511 PRINT AT 11,G; INK 5;"  ";AT 12,G;"  ";AT 13,G;"
";AT 14,G-5; INK 6; BRIGHT 1;" ▗▄";AT 14,G-3; INK 5; BRI
GHT 1;"▟▙";AT 14,G-2; INK 6; BRIGHT 1;"▟▙▟▙": PRINT AT 13
G;"    ": PRINT AT 12,G;"    ": PRINT AT 11,G;"    ": BEE
P 1,-11: FOR C=0 TO 50: NEXT C
4513 CLS
4515 GO TO 5000
4720 LET W=W+1: IF W>15 THEN  GO TO 5070
4721 IF W=-5 THEN  GO TO 8900:
4722 IF W=14 THEN  PRINT AT 21,0;"THIS ONES FOR THE CHA
MPIONSHIP"'
4723 PAUSE 50
4725 CLS
4730 GO TO 10
5000 PAUSE 10: IF W=0 THEN  PRINT AT 10,0;"YOU MAY AS W
ELL RETIRE"
5010 PAUSE 10: IF W>0 AND W<=3 THEN  PRINT "NOT BAD FOR
 A BEGINNER"
5020 PAUSE 10: IF W>3 AND W<=6 THEN  PRINT "GOOD TRY ";
N$;
5030 PAUSE 10: IF W>6 AND W<=10 THEN  PRINT " VERY GOOD
 EFFORT ";N$;
5040 PAUSE 10: IF W>10 AND W<=15 THEN  PRINT "YOU LOST
ON THE REFS DESISION"
5050 IF W>15 THEN  GO TO 5060
5055 GO TO 7000
5070 PAUSE 10: FOR S=0 TO 21: PRINT AT S,0; PAPER 7; IN
K 2; BRIGHT 1; FLASH 1;"YOU ARE THE NEW WORLD CHAMPION!
!": FOR L=50 TO 0 STEP -2: BEEP .008,L: NEXT S
5080 NEXT L
7000 PAUSE 200
7010 CLS : PRINT "  WOULD YOU LIKE ANOTHER GO?     ....
.......(Y/N).........."
7016 INPUT R$
7020 IF R$="Y" OR R$="YES" THEN  RUN
7030 CLS : IF R$<>"Y" OR R$<>"YES" THEN  FOR T=0 TO 21:
 PRINT TAB (T); BRIGHT 1; INK 6; PAPER 0; FLASH 1;"BYE"
: BEEP .008,T: NEXT T: RANDOMIZE USR 0
8000 CLS
8030 PRINT AT 15,10; INK 1; PAPER 5; BRIGHT 1; FLASH 1;
"BY S.GOODLEY"
8040 PRINT AT 21,3;"PRESS ANY KEY TO CONTINUE"
8050 IF INKEY$="" THEN  GO TO 8050
8060 REM INSTRUCTIONS
```

```
8100 PAUSE 10: PRINT AT 2,0;"THIS IS YOUR BOXER !!!!!!"
8110 PRINT AT 4,15; INK 6; BRIGHT 1;"▟▙";AT 5,15; INK 6;
 BRIGHT 1;"▜▛";AT 6,15; INK 5; BRIGHT 1;" ▜";AT 7,15; INK
 6; BRIGHT 1;"▟▙"
8120 PRINT AT 10,0;"YOU MOVE HIM FORWARD WITH 1 AND BAC
KWARDS WITH 0.                    TO THROW A PUNCH PRESS M"
8180 PAUSE 10: PRINT AT 21,0;"PRESS A KEY TO START FIGH
TING!!!"
8190 IF INKEY$="" THEN  GO TO 8190
8195 GO TO 3
8600 PRINT AT 11,F;"  ";AT 12,F;"   ";AT 13,F;"   ": PR
INT AT 14,F; INK 6; BRIGHT 1;"▟▙▙▙";AT 14,F+2; INK 2; BRI
GHT 1;"▙▙";AT 14,F+3; INK 6; BRIGHT 1;"▟▙": FOR C=0 TO 50
: NEXT C: FOR G=0 TO 21: PRINT AT G,0; INK 4; PAPER 0;
BRIGHT 1; FLASH 1;"...KNOCKOUT KNOCKOUT KNOCKOUT...": N
EXT G
8610 FOR U=0 TO 50 STEP 2: BEEP .008,U: NEXT U: GO TO 5
070
8700 PRINT AT 11,G+1;"  ": PRINT AT 12,G+1; INK 6; BRIG
HT 1;"▟▙  ";AT 13,G+1; INK 6; BRIGHT 1;"▜▛  ";AT 14,G+1;
INK 5; BRIGHT 1;" ▜ ";AT 14,G; INK 6; BRIGHT 1;"▟▙": BEEP
 1,-10
8710 LET W=W-1: GO TO 4721
8900 PRINT AT 0,0; INK 6; BRIGHT 1;"THE REFEREE HAS STO
PPED YOU !!!!"
```





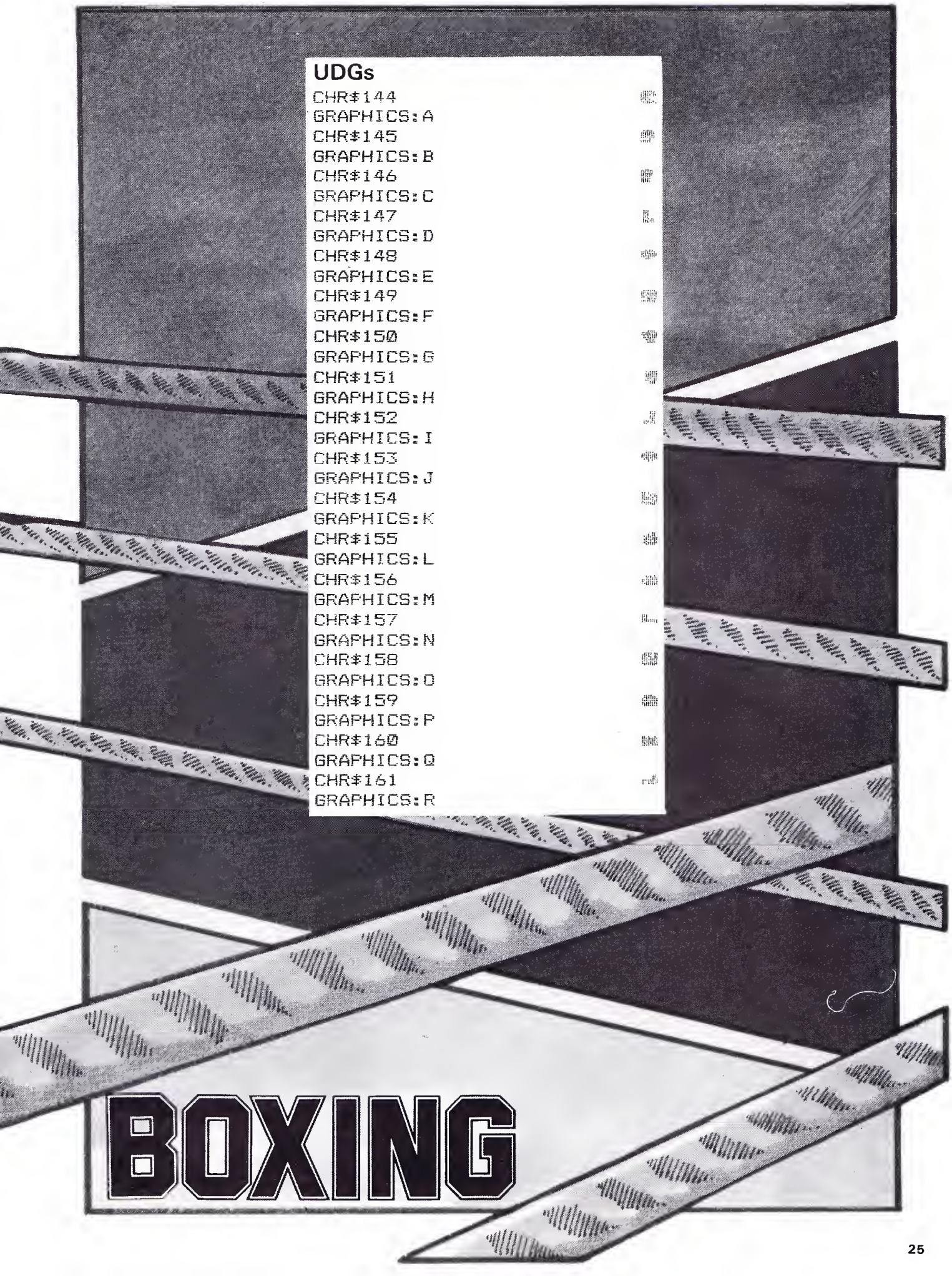

```
8910 GO TO 7000
8990 REM       UDG
9000 POKE USR "A",126
9010 POKE USR "A"+1,255
9020 POKE USR "A"+2,251
9030 POKE USR "A"+3,255
9040 POKE USR "A"+4,248
9050 POKE USR "A"+5,248
9060 POKE USR "A"+6,255
9070 POKE USR "A"+7,127
9075 REM
9080 POKE USR "B",124
9090 POKE USR "B"+1,254
9100 POKE USR "B"+2,254
9110 POKE USR "B"+3,254
9120 POKE USR "B"+4,254
9130 POKE USR "B"+5,252
9140 POKE USR "B"+6,248
9150 POKE USR "B"+7,248
9175 REM
9180 POKE USR "C",252
9190 POKE USR "C"+1,252
9200 POKE USR "C"+2,252
9210 POKE USR "C"+3,252
9220 POKE USR "C"+4,248
9230 POKE USR "C"+5,248
9240 POKE USR "C"+6,248
9250 POKE USR "C"+7,248
9255 REM
9260 POKE USR "D",112
9270 POKE USR "D"+1,112
9280 POKE USR "D"+2,112
9290 POKE USR "D"+3,112
9300 POKE USR "D"+4,112
9310 POKE USR "D"+5,126
9320 POKE USR "D"+6,126
9330 POKE USR "D"+7,126
9335 REM
9340 POKE USR "E",60
9350 POKE USR "E"+1,255
9360 POKE USR "E"+2,255
9370 POKE USR "E"+3,255
9380 POKE USR "E"+4.254
9390>POKE USR "E"+5,56
9400 POKE USR "E"+6,0
9410 POKE USR "E"+7,0
9415 REM .
9420 POKE USR "F",126
9430 POKE USR "F"+1,255
9440 POKE USR "F"+2,223
9450 POKE USR "F"+3,255
9460 POKE USR "F"+4,223
9470 POKE USR "F"+5,31
9480 POKE USR "F"+6,254
9490 POKE USR "F"+7,254
9495 REM
9500 POKE USR "G ,30
9510 POKE USR "G"+1,255
9520 POKE USR "G"+2,255
9530 POKE USR "G"+3,127
9540 POKE USR "G"+4,127
9550 POKE USR "G"+5,63
9560 POKE USR "G"+6,62
9570 POKE USR "G"+7,30
9575 REM
9580 POKE USR "H",63
9590 POKE USR "H"+1,63
9600 POKE USR "H"+2,63
9610 POKE USR "H"+3,63
9620 POKE USR "H"+4,63
9630 POKE USR "H"+5,63
9640 POKE USR "H"+6,14
9650 POKE USR "H"+7,14
965. REM
9660 POKE USR " ",14
9670 POKE USR "I"+1,14
9680 POKE USR "I"+2,14
9690 POKE USR "I"+3,14
9700 POKE USR "I"+4,14
9710 POKE USR "I"+5,126
9720 POKE USR "I"+6,126
9730 POKE USR "I"+7,126
9735 REM
9740 POKE USR "J",60
9750 POKE USR "J"+1,255
9760 POKE USR "J"+2,255
9770 POKE USR "J"+3,255
9780 POKE USR "J"+4,127
```



```
9790 POKE USR "J"+5,28
9800 POKE USR "J"+6,0
9805 REM
9810 POKE USR "K",222
9820 POKE USR "K"+1,223
9830 POKE USR "K"+1,223
9840 POKE USR "K"+2,203
9850 POKE USR "K"+3,255
9860 POKE USR "K"+4,255
9870 POKE USR "K"+5,255
9880 POKE USR "K"+6,255
9890 POKE USR "K"+7,62
9895 REM
9900 POKE USR "L",6
9901 POKE USR "L"+1,30
9902 POKE USR "L"+2,126
9903 POKE USR "L"+3,255
9904 POKE USR "L"+4,255
9905 POKE USR "L"+5,255
9906 POKE USR "L"+6,255
9907 POKE USR "L"+7,62
9908 REM
9909 POKE USR "M",0
9910 POKE USR "M"+1,0
9911 POKE USR "M"+2,63
9912 POKE USR "M"+3,63
9913 POKE USR "M"+4,255
9914 POKE USR "M"+5,255
9915 POKE USR "M"+6,255
9916 POKE USR "M"+7,63
9917 REM
9918 POKE USR "N",0
9919 POKE USR "N"+1,224
9920 POKE USR "N"+2,224
9921 POKE USR "N"+3,224
9922 POKE USR "N"+4,255
9923 POKE USR "N"+5,255
9924 POKE USR "N"+6,255
```

```
9925 POKE USR "N"+6,0
9930 REM
9935 POKE USR "O",123
9936 POKE USR "O"+1,251
9937 POKE USR "O"+2,219
9938 POKE USR "O"+3,255
9939 POKE USR "O"+4,255
9940 POKE USR "O"+5,255
9941 POKE USR "O"+6,255
9942 POKE USR "O"+7,126
9943 REM
9944 POKE USR "P",0
9945 POKE USR "P"+1,120
9946 POKE USR "P"+2,126
9947 POKE USR "P"+3,255
9948 POKE USR "P"+4,255
9949 POKE USR "P"+5,255
9950 POKE USR "P"+6,255
9951 POKE USR "P"+7,127
9952 REM
9953 POKE USR "Q",0
9954 POKE USR "Q"+1,0
9955 POKE USR "Q"+2,210
9956 POKE USR "Q"+3,255
9957 POKE USR "Q"+4,255
9958 POKE USR "Q"+5,255
9959 POKE USR "Q"+6,255
9960 POKE USR "Q"+7,255
9961 REM
9962 POKE USR "R",0
9963 POKE USR "R"+1,7
9964 POKE USR "R"+2,7
9965 POKE USR "R"+3,7
9966 POKE USR "R"+4,255
9967 POKE USR "R"+5,255
9968 POKE USR "R"+6,255
9969 POKE USR "R"+7,0
9970 GO TO 2
```

BOXING


UDGs
CHR$144
GRAPHICS:A
CHR$145
GRAPHICS:B
CHR$146
GRAPHICS:C
CHR$147
GRAPHICS:D
CHR$148
GRAPHICS:E
CHR$149
GRAPHICS:F
CHR$150
GRAPHICS:G
CHR$151
GRAPHICS:H
CHR$152
GRAPHICS:I
CHR$153
GRAPHICS:J
CHR$154
GRAPHICS:K
CHR$155
GRAPHICS:L
CHR$156
GRAPHICS:M
CHR$157
GRAPHICS:N
CHR$158
GRAPHICS:O
CHR$159
GRAPHICS:P
CHR$160
GRAPHICS:Q
CHR$161
GRAPHICS:R
BOXING

G·A·M·E·S

OF THE FILMS

Last Games Computing revealed the computer version of the games 'Ghostbusters' and 'Alien'. Ghostbusters has since become a chart-buster and is immensely popular.

This month Mike Roberts looks at two films that couldn't be further apart. The Last Starfighter is a hi-tech science fiction fantasy with very heavy use of computer generated imagy. Give My Regards To Broad Street is a musical starring a couple of the Beatles and Tracy Ullman. Let the cameras roll. . .

The Last Starfighter

The Last Starfighter kicks off with our hero, Alex Rogan, as an arcade ace cooped up in a trailer park in Deadsville USA. His consuming passion is to get out of the life that he is living at the moment. This ambition is destroyed when the bank turns down a loan for him to go to college (there is no grant system in America, students get loans from banks to be paid back later in life when they have 'made it').

Feeling pretty browned off at the prospect of living in a caravan for the rest of his life, Alex shoves whatever the American equivalent of 20p is into the slot of his Star Fighter arcade machine. He goes on to create an all time record breaking score and destroying the mother ship etc, etc. (I'm sure you know the story), this is done to the cheers of all his neighbours that have gathered around him in awe.

Later that night while Alex is wandering down the road in contemplation of his fate, a strange looking car pulls up — looking very similar to a Lotus Esprit. That is, if you forget that it can go at 300mph and fly. Because after a hairaising run and a near crash into a broken bridge the car takes off! Not only does it take off, but it keeps going, and going, and going until, as a space ship the alien — otherwise known as Centauri — flys Alex to the planet Rylos, the same planet Rylos as featured in the video game — curiouser and curiouser. . .

It turns out that Centauri is recruiting beings to join the elite (pardon the pun) fighter squadron called the Starfighters(gosh!) to save the world from the menaces of the Zandozan armada. And the arcade machine is really a tester.

To cut a long story short, after much travelling to and from Earth Alex agrees to join the Starfighters — the only problem is that when he gets back to Rylos he discovers that all the pilots and ships have been destroyed apart from his and his navigator, Grigg — a sort of six foot high gheila monster.

Does Alex save the universe? Does he get the girl? Does Centauri survive? etc, etc. . . Well I'm not telling you — go and see the film.

The film has 'Lorimar' stamped on it somewhere, and they make 'Dallas' so you can see that the plot is a bit odd — even though, at the preview a whole cinema load of hardened hacks cheered when the soppy bit finally happened.

Down to Graphics

The most incredible part of the film and the bit that is getting the most publicity at the moment, is the long sequences of computer animated graphics. All the animation was done on a Cray XMP computer. There are very few Cray 1s or XMPs around and the popular press has taken to calling them 'Super Computers'. Super or not, these types of computer are the fastest and most powerful computers available. The Cray is so big that you need a VAX just to control it. VAXs are not small, in fact they alone cost £50,000 — not bad for a glorified keyboard.

The images produced, as you can see from the cover are extremely complex. The most detailed is the Gunstar, the last starfighter itself. This is made from 750,000 polygons — individual shapes. The original design was done on a three view drawing, much like the plans for a modern jet, digitized, and then made to come alive inside the memory of the Cray XMP.

The computer work was done by a company called Digital Productions. They are the people that brought you Tron. The five minutes of computer animation that features in Tron was created on a Cray 1. The Last Starfighter has around 25 minutes of graphics, and the cost is comparable to what it would cost a film to be made with models!

Atari are bringing out an arcade game version of the film of the game (work that one out) no details are available yet of its game play or format, though it is rumoured to be similar to the game as featured in the film.

Give My Regards To Broad Street

This musical spectacular, written and starring Paul McCartney, has already had a couple of its songs rise high in the charts. The theme of the film is that a master tape of an album has been stolen, and he needs to get it by a certain deadline.

There are 14 songs in the film, including some old Beatles numbers which are performed by McCartney, Ringo Starr and a whole mish mash of other musical performers like Dave Gilmoure from Pink Floyd, John Paul Jones from Led Zeppelin, and 10cc's Eric Stewart.

The resulting mega-group produces some excellent music. Oldies include 'Eleanor Rigby', 'Good Day Sunshine', and 'Yesterday'. New songs written especially for the film include the hit 'No More Lonely Nights' and some others.

The film is full of fantasy and dream sequences including one where there is a flying carpet, and a Victorian scene. Another point of interest is the customised Ford Popular car that McCartney uses to drive around in. The film has a simple plot, but the music and film sequences really make the film.

Computer Conversion

The game of the film is called 'Broad Street' and follows the theme of the film. The McCartney music is missing and various people across London can remember bits of it. You, as McCartney, must drive your Ford Popular around London to talk to these people and slowly piece together what the music should sound like. To help you your car is equipped with a sort of computer locater that will help you find where the people are. To hinder you there is the world infamous London traffic and traffic wardens!!! Also the bad guy from the film is after you.

All throughout the game 'Band on the Run' is playing in the background, for some musical accompaniment.

Broad St (the game) was written by Concept Software marketed by Mind Games and will be available for the Commodore 64 and the ZX Spectrum.

SOFTWARE

JETBOAT

Runs on: BBC Model B
Made by: Software Invasion
Price: £9.95

Following up their epic 3D Grand Prix, Software Invasion have gone for another three dimensional type game. This time the player is racing a "Jet Boat".

The loading procedure is long, with lots of graphics (courtesy of Quicksilva's Beebart). The best feature is that you can redefine the keys for left, right and accelerate, choosing any keys which suit you best.

The interminable loading time (interesting block countdown from &FF) is worth every second. A screen full of "Jet Boat" scrolls sideways to reveal a twisting and turning course of blue water through a variety of landscapes, walls, buildings, farms and castles. The ready sign disappears to reveal the Jet Boat on the starting line.

It's captained by a sporty looking sprite but it's you that has to come up with the fast reactions and judgement to guide Jet Boat through the course.

There is a good mix of bends, wide passages and slim straits to test your skill. As each lap is completed within the time limit (if you don't make it the game ends and the high score table appears) more objects appear along the course and make things pretty hairy. The sea monsters and sandbanks push you to the limits of concentration.

The game is compatible with joysticks but I preferred the fine touch of keyboard control. If the boat gets stuck on a bit of land (you can plough your way across land and through buildings if you really want to!) it is best to get off by the quickest route rather than continue on your current heading. It dosen't matter how much of the boat is touching, you just grind to a near halt.

The action is very smooth, impressively so considering the amount of landscape and features that go whizzing by the Jet Boat as it accelerates away. Sound is OK and can be switched on and off as wished. You also get a freeze option. Quite a game, original, challenging and nerve pinching.

Mr.Ee

Runs on: BBC B
Made by: Micro Power
Price: £7.95

In this game, Mr.E you control a wizard tunneling underground. You, Willy the wizard, have an objective in life, it is to collect cherries which, for some reason have been left underground. To stop you achieving this goal there are some rather unfriendly creatures called UMPHS. The umphs cost you one of three lives every time they make contact with you. Fortunately you can kill umphs. One method of killing them is pushing an apple (also buried underground) so it falls down a tunnel and crushes the unsuspecting umph. The second way is to throw the crystal ball you have in your hands which bounces down the tunnels until it hits an umph or returns to your hands. After all the cherries or umphs have been eaten or killed you progress to the next level.

There are no skill levels as such but instead each screen is progressively more difficult. Joysticks may be used and make the game a little bit easier. All in all Mr.E is a good game and is very addictive.

DUNE RIDER

Runs on: BBC B
Made by: Micro Power
Price: £7.95

Dune rider is an interesting variation on the old theme of Moon Buggy. The instructions tell you that you are one of the few remaining humans and you must deliver something to the other side of the planet. This may sound a bit vague but in fact the game is not so at all. You set out from your base in a dune mobile which has eight wheels and ideal for the purpose. The terrain is not easy, there are lava pits and radioactive rocks which you must jump. As if that isn't enough unfriendly aliens whiz about at the top of the screen dropping bombs. There is one thing that decreases faster

the your number of lives and thats fuel. The only way to stop running out of juice is to shoot the alien tankers which then drop you a couple of gallons.

There are no skill levels but each 1000 points you score a different set of aliens appear which are even more deadly than their predecessors. All things taken into account dune rider is a fun game and well worth the money.

B.C.BILL

Runs on: Commodore 64
Made by: Beau Jolly
Price: £6.95

As the name suggests the scenario of this game is set in pre-historic times where poligimy was the norm. Bill is the character around whom the game revolves, as it is his task to capture and feed an evergrowing family (in terms of number of wives). The task therefore requires Bill to collect as many wives as possible (who just happen to be wandering around looking for trouble!), by clubbing and draging them back to his lair. This then leads to the appearance of the children. All of whom have to be kept well fed by clubbing wandering food, cooking it and then taking it back to the cave.

Each wife and child requires one unit of cooked food per season to keep them satisfied. But if these meagre requirements are not met then the wife with her children will depart in search of another home. If the entire family decides to leave then Bill dies of a broken heart (besides other ailments). As the seasons visibly change, the wives that are well fed each produce one offspring at regular intervals, thereby increasing not only the family but also the fight for survival.

To make life a little less mundane, carnivorous dinosaurs wander about eating anyone in their path, and occasionally his cave is attacked by various raiding parties. The sole means of defence are provided by the constant waving of Bill's club.

To ease the pressure, each child leaves home after 3 years to fend for themselves. Bill's directional and club movements are controlled by the keyboard or a Joystick.

The game is addictive though it does become increasingly difficult as the area overflows with wives, kids, food, and dinosaurs.

ICE HUNTER

Runs on: Commodore 64
Made by: Anirog
Price: £5.95

The hero of this game is called THORAK the legendary Eskimo prince of ice. It is your task to guide Thorak in his quest for the ice blocks that would help him to build an igloo.

Scattered about the various levels of the cave are the ice blocks that he needs. All Thorak has to do is to push the blocks of ice on each of the levels until they fall through the holes to the levels below until they can all be accumulated on the lowest level of the cave where there is an underground stream, which can be used to float the ice blocks to a place where he can build his igloo. The gaps are covered with thin ice and can only bear Thorak's weight once before the ice breaks leaving a gaping hole.

The cave has five levels where creatures wander causing death upon contact. They can however be destroyed by dropping a block of ice through the holes upon them or by eating the power pill which occasionally flashes on the screen and crushing them underfoot.

To move from level to level, Thorak has to use support pillars. Once having collected all the ice blocks in the stream Thorak then has to return to another cave where the number of blocks and deadly creatures increases, thereby making his task even more difficult. There are 6 caves in all for Thorak to traverse.

The game can be played by using either a joystick or the keyboard with a one or two player option. The game also has a pause feature which I found extremely useful whilst I contemplated my next manoeuvre.

TERRAHAWKS

Runs on: Spectrum 48K
Made by: CRL
Price: £6.95

TERRAHAWKS is supposed to be based on the TV series by Gerry Anderson, I say supposed because apart from the name I cannot really see any connection with the puppet show.

The game opens with a quite impressive sequence as stars rush by your rocket ship as you descend into a black hole. The only problem with this part of the action is that you have no control over it, whatever you do you descend into the black hole. The object seems to be to find the vortex of the black hole and fly into it whilst avoiding the 'green monoliths' that line the black hole. I spent quite a bit of time flying around the black hole looking for the vortex but was unable to locate it, the instructions are not very clear and I really wasn't sure if I was playing correctly or just that the game is too difficult. Certainly the graphics are well done with the view out of the space ship lined with all your instrument panels which were quite detailed and all seem to represent something but still I really couldn't work out what was happening. The 'green monoliths' were a bit of a disappointment being only 3D rectangles that just sort of sat there as green monoliths are prone to do waiting to be shot at or avoided.

I somehow got the impression with this game that the programmer knew what he was doing, with a nice opening menu and display sequence and well laid out screen display but the story line seems to have got left by the wayside. On the assumption that the programming is the hardest part to do it is a pity that a bit more effort didn't got into the action itself.

SWAG

Runs on: BBC
Made by: Micro Power
Price: £6.95

Swag is primarily a two player game but with a practice option for a single player to joust with the computer; however be warned that as a single player you will be more than fortunate to win — so bring a friend.

As with most Micro Power offerings this is a very acceptable multi facetted arcade type game. Stylishly drawn with full colour graphics this program has more than the usual friendly functions including the giving of a specified player a head start.

The object of the excercise is the accumulation of cash over and above that of your opponent who is striving to achieve a common goal through similar means. Both are trying to steal £250,000 in diamonds whilst shooting each other and defying killer Droids respectively called Henrys and Percys. With Police cars rarely offering assistance and drinking cans of beer it's not surprising that the sanctuary of your home remains very elusive.

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Being a two player game the placement of the keys are most important and fortunately in this case they are as convenient as one could hope, however you do have a joystick option should you be fortunate to own a compatible pair.

This package represents value for money consistent with the many similairly featured arcade games at the momment, but it's two player aspect which I feel will influence a potential buyer for or against it.

GILLIGAN'S GOLD

Runs on: Commodore 64
Made by: Ocean
Price: £7.95

Here is a game that has an extremely uncomplicated plot and so it proves my theory that some of the best games are those that have the simplest storylines.

The scenario has Gilligan in a gold mine where the gold has been mined and placed in bags, strewn in the shafts deep within the mine. The basic object of the game is to use Gilligan to collect all of the bags of gold and place them in the wheelbarrow, at the top of the screen/mine, before the time runs out or the Outlaws get you. Gilligan's movements are controlled with a joystick in either port 1 or 2.

The entire mine is spread over three screens which scroll as you move to the edge of the screen either left or right. Different levels of mine shaft are connected either by ladders or continuously moving lifts.

Loss of life can occur when Gilligan falls down a mine shaft, runs out of time or is accosted by a bandit. Bandits can be temporarily stunned by dropping a bag of gold through a mine shaft, on top of them.

The game's status as displayed on the screen shows the current score, high-score and number of lives remaining. At the start 4,000 units of time are allocated and these steadily decrease as the game progresses. Each bag of gold that is deposited in the wheelbarrow gives Gilligan another 4,000 units of time to attain the next bag of gold.

The graphics are excellent, in that they are extremely realistic and good use is made of the Commodore's music facilities.

I found this game to be exceedingly addictive as I found myself repeatedly playing the game with the incentive of going for just that one extra bag of gold each time I lost a life.

SANTA AND THE GOBLINS

Runs on: TI99/4A (unexpanded)
Made by: Intrigue
Price: £5.95

This is a novel and topical (at the time of writing) mixed graphics and text adventure game. I say 'mixed' because in ordinary TI BASIC it takes some time for scene changing to take place and the screen also clogs up with questions and answers. The graphics are simulated 3D and use the same basic format with changed colours and doorways for each scene. There are a number of interesting features associated with the game. First, a word list of verbs and objects is provided.

You are told how to combine them to form abbreviated commands which are thus simple to enter. Second, it is possible to ask questions of characters in the scenes. Third, pointers as to what rooms exist are given by a friendly elvin which wanders around the mansion where the action takes place letting you know its location. Santa must find the children in the mansion and deliver boys and girls presents whilst taking sustenance from a finite number of mince pies. When the supply runs out the game ends. On his journey through the various rooms of the mansion, Santa encounters sneaky goblins which steal things from him and deposit them in other rooms. During his wanderings Santa may discover a magic lamp, lamp oil, matches, a wand, goblin stoppers and a mysterious map to help him in his quest. The title seems to indicate that it is aimed at a more junior audience and as such it is a well judged introduction to the adventure games style. It also remains challenging to adults and thus makes an excellent family game. The packaging is good quality, the instructions helpful and lucid and the game very good value for money.

SIR LANCELOT

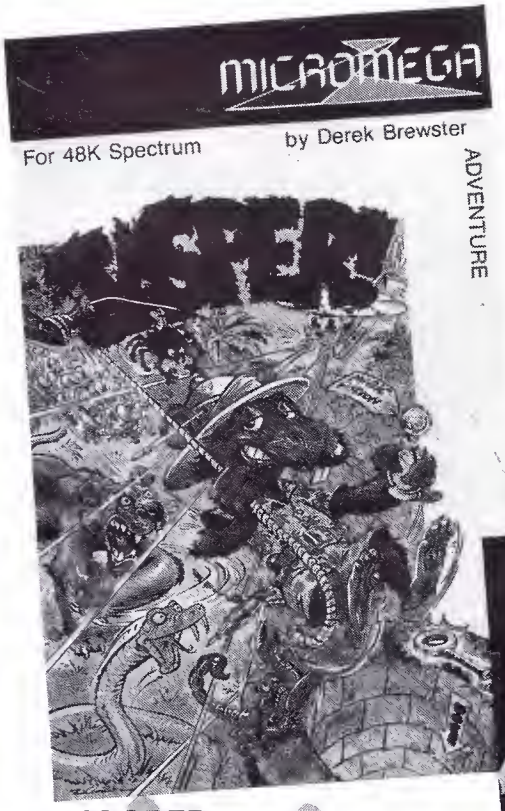
Runs on: Spectrum 16K
Made by: Melbourne House
Price: £5.95

Another good game by Melbourne House. This one though is an adventure/arcade game with 24 screens, 7 aliens, moving stairways, and all on a 16K Spectrum.

The game loaded first time with good display of graphics. The game opens with a good title screen and when you are playing you notice the extreme quality of all the graphics and animation involved in the game.

The game plays extremely fast and all animation involved in the game is very smooth indeed. The game plays very well and you have real control. The game is a multi-level game with each room in the castle totally different. You have to travel into every room of the castle and before leaving a room you must collect every item in that room. To make a challenge you must dodge the aliens. The game followed the trend of many arcade games now on the market. This copy is of a very high standard. The only limitation was on the sound. No crash problems were encountered.

The game follows a trend of Melbourne House's to produce high class games. The game varies of a theme of high standard adventure games. My verdict on the game is that it is definitely worth the money with superb graphics, useful sound and ALL on a 16K machine.



JASPER

Runs on: Spectrum 48K
Made by: Micromega
Price: £6.95

Every now and then a game comes along that is a pleasure to play and to watch other people play. Such as game is JASPER in which the hero is a mouse (for some reason I kept thinking that Jasper was a kanagaroo) whose objective is to get from start to finish through 22 screens without getting duffed. Along the way are various objects that are required to make your journey possible. You are only able to carry five objects at once which are then placed in boxes at the top of the screen for future use and there is a real time clock so that with each playing you can improve your time score.

Where Jasper really wins is in the excellent use of graphics with beautifully animated creatures and very smooth scrolling screens, this just shows what can be done with a Spectrum in the hands of a good programmer.

JASPER can really be described as a arcade/adventure game with almost cartoon like characters. Jasper can jump over other animals (perhaps that is where the feeling of a kangaroo comes from) swing through the trees on a rope and jump off platforms and float down to earth using an umbrella as a parachute. It really is a joy to watch the big cats stalking across the screen and the bunnies hopping everywhere. There is plenty of action on each screen and you need a combination of quick reflexes and careful planning to make your way through all the screens.

One thing I would have liked to see would be the option of using a joystick but I understand that as so many keys have to be used it could prove a problem but the keyboard controls are very responsive and do not require you to have 258 fingers going at the same time so perhaps the joystick option is not too important and certainly does not detract from the game at all.

If you are only able to purchase one game a month for your Spectrum then I would make this your next one, I would even go as far as to say if you are only able to buy one very six months then make this the one as I am sure that its addictive value will keep you going for most of that time. Well done Derek Brewster, another Kentilla.

KOKOTONI WILF

Runs on: Spectrum 48K
Made by: Elite
Price: £7.95

The game came in a neat package with good, clear and concise instructions. The game is one of Elite's finest games. Elite have a good name in software and certainly live up to it in this game.

The game loaded without any problems whatsoever and continued to do this. The idea of the game is to collect the many fragments of an amulet smashed several million years ago and scattered throughout time. You have been sent on the quest to go and find all the fragments of the broken amulet. The mage who sent you has given you one aid — a pair of wings (so you have the ability to fly) Control is by the Q and W keys and O to fly. You can combine the use of these keys to get very effective movement indeed. Graphics are superb and are used just about everywhere. Giant dinosaurs and sharks are a small (very small) sample of the type of graphics encountered in playing this game.

The game played very well and handled very well too. Sound was limited but what can you do with a Spectrum? There is the beat of his wings when flying. Apart from this I have no criticisms of the game. I thoroughly recommend this game to anybody.

MANIC MINER

Runs on: BBC B
Made by: Software Projects
Price: £5.95

Converting games from more popular machines to less popular machines is becoming a common idea with many software houses. Manic Miner, in my opinion, will turn out to be a best seller for the BBC B. To my surprise the game is identical except for the fact that only four colours are used and there are four less screens. Despite this minor (sorry!) failing, the game is nothing short of brilliant. For those of you who aren't aquainted with the Manic Miner for the Spectrum I'll fill you in. You control miner Willy who has stumbled across an abandoned mine. Unfortunately whoever abandoned this mine forgot to stop all the mining robots who now try to get in miner Willy's way, while he collects the goodies. The goodies consist of gold keys, gems and gold boxes and basically all the other things you find in your average abandoned mine.

There are 16 screens all together, each only accessible after all the items from the previous screens have been collected. Manic Miner will provide hours of fun for any Beeb owner and so is a must especially at such a price.

3D GRAND PRIX

Runs on: BBC
Made by: Software Invasion
Price: £9.95

Despite the weird loading addresses this game was accepted by the computer without problem time after time. The curtain eventually opens at the Silverstone race circuit.

I must admit I approached the game warily upon seeing that the graphics were accredited to the drawing program 'Beeb Art by Quicksilva' — however the repesentation of both car and landscape were more than satisfactory being very well drawn. The fact that you can select from eight different race circuits, have keyboard or joystick

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option and even an adjustable volume control constitutes the good news regarding this game, now for the bad.

In order that a game be enjoyable it must by nature be realistic (as in a simulation such as this) and playable — unfortunately I found 3D Grand Prix to be neither. Cars appear as if by magic from nowhere only to settle down on your front bumper; try to overtake them and frustration really sets in! The only way that a car in front can be overtaken is to go well onto the grass away from the track and risk incurring assault by a marker post. . . surely this can't be right? It is not realistic to overtake off the course and as the opportunity to do even this successfully is rare the game is not playable either.

Not wanting to critize an otherwise excellent Software house I even sought the opinions of my friends and colleagues who had bought this programme only to meet with the same frustrations, so it isn't just my inadequacy.

Normally I swear by Software Invaion, following their new releases closely, this is the first occasion I have ever felt like swearing at them.

SNAPPO

Runs on: Memotech MTX Series
Made by: Oxford Data
Price: £6.95

This game is of the Pacman-Munchman variety. For those yet unexposed to this game, the idea in this version is to guide a little pig's head around a maze to gobble up dots in its path. Bonus points are gained from eating fruit which appear from time to time. Snappo is chased around the maze by chasers which gobble him up if they catch him. There are four of these which start in a central pen-like area of the maze and venture out after giving Snappo a head start. In the maze corners are flashing booster packs which when eaten enable Snappo to eat the chasers for bonus points. Their ghosts return to the pen to be reborn again. When they start to flash and change back to their original shapes they are still edible, but signalling that they are about to become active chasers once again.

If Snappo clears the maze of dots then he progresses to a higher level with further chasers and more fruit to eat. There are tunnels at the sides of each maze down which Snappo can escape whilst being pursued. Chasers can only travel half speed down these which gives Snappo the edge in getting away. In addition, he reappears at the other end of the maze having hopefully lured all the chasers to the side he exited from.

This version is a faithful rendition of the original and has good clear graphics and sound effects. The movement is smooth and control good by either joystick or keyboard.

The on-screen instructions are clear and expand on the brief printed ones. There are three lives per game. The ones left and the score achieved are shown on screen. There is a high score table for the top eight scores. The packaging is good and identical to Continental Software's in style. Indeed the game seems to come from the same stable.

Even though it is now a somewhat dated game, this one still holds the interest — well, at least for a little while. If you have to have a 'pacman' at all costs then I suppose this is reasonable value for money.

CU *BERT

Runs on: TI99/4A (unexpanded)
Made by: Stainless Software
Price: £5.00

Cu * bert is a small shrew-like creature who starts off in the bottom most left hand box of a pyramid of cubes. By moving him to the other cubes using the keyboard you can change their colour and your points. The colour the cubes will change to is displayed at the top of the screen along with the top score and the score for that game. A round is complete when all cubes have changed colour. Pyramid colours change with each round and levels get more difficult.

Cu * bert has three lives per round. The number of the round and level are also displayed on the screen. Since colour in integral to the game, you are asked on running if you have a colour TV so that appropriate patterning can be made for black and white if you haven't. Cu * bert must avoid both descending black and white balls which bounce between squares and creatures which appear on the screen and which can change colours back again. After scoring 750 points you can take avoidance action by jumping to the bottom middle square of the pyramid which is marked with a plus. The keys chosen for play take some getting used to since they are set with left and right controls for up on the right hand and left and right for down on the left. If deliberate this seems an unnecessary complication,. if not, then why no option to reset keys to a more logical setting, like up and down on left and right hands respectively for those sides.

The graphics are reasonably colourful and relatively smooth for unexpanded T1 basic and the sound quite good. The least said the better about the limited instructions and packaging. It's quite an addictive game and seemed good value, but when I was doing quite well, the game crashed with a 'Bad value in 3400' message. After that I rather lost interest.

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MINESHAFT

Runs on: BBC Model B
Made by: Durell Software
Price: £7.95

Mineshaft by Nick Wilson and Julian Todd is a very nice implementation of this old favourite. Incidentally Durell seem to be following up an idea started by the video companies in colour coding their cassette boxes and tape. A warning appears on both card insert and screen about the possibility of your program being a forgery. Rest assured your reviewer has checked it out and his is for real!

The idea of the game is to guide your hero (he looks like an ordinary member of the public who has accidentally fallen down the shaft) around the ledges, crumbling paths and moving belts of 20 different rooms. One the way you collect lumps of coal and bonus points.

Extra earnings are gained for mastering the disintegrating sludge and getting out of the room with the air supply still fairly full. It is possible to flip to the next room by using Escape if you are getting stuck.

Mineshaft graphics and sound are pretty good although you always have the superior versions for other computers in the back of your mind. The best news is that Mineshaft is very playable, with a good feel at the keyboard, fast response and smooth action.

There isn't quite as much going on per screen compared with a Blagger or Son of, nor are the graphics as detailed. Playability is ultra important with a game like this and is where Mineshaft scores over its rivals.

ROO

Runs on: TI99/4A (extended BASIC)
Made by: Stainless Software
Price: £5.00

Roo is a runways and ladders style game in which a mother kangaroo is in search of her baby which is being held captive by monkeys.

On screen one Roo has to move along runways and scale ladders to reach the top of the screen where her offspring is imprisoned. She must avoid or confront apples which move sideways across the screen in her path. There are three methods of doing this. Firstly, by jumping over them, secondly, by ducking under them (screen one only) and finally, by punching them into apple cores for bonus points. The apples seem to appear more often if you punch them, though the instructions say the opposite. On the way, Roo can jump, collect fruit and bells for extra points.

On reaching the monkey's cage containing the baby at the top of the screen, you move on to Screen two. On this Roo must jump up a staircase of logs suspended by vines whilst avoiding more apples travelling horizontally across the screen. Again there are bonus points for fruit and bells collected. Similarly, on reaching the top of this screen you go on to the third screen. This is somewhat different with a column of monkeys supporting the baby in a cage. The monkeys have to be punched out to rescue the baby. As well as horizontal apples to contend with, there are vertical ones to dodge on this screen. Game score and high score appear on the screen. The graphics are clear and smooth and the colours tasteful. It's a frustrating game initially until you get the hang of the keys used (why no joysticks?) to control Roo and until you realise the techniques of dealing with the apples and obstacles. Thereafter, I found it relatively easy to play and was somewhat disappointed that there were only three screens to the game.

In this sense, the level of difficulty didn't seem to increase appropriately either. The instructions are brief but adequate and the keying sequence appears before each game. Expanded with joystick control, this could be a really good game.

As it is, it is cheap enough, but seems incomplete and insubstantial.

TAPEWORM

Runs on: Memotech MTX Series
Made by: Continental Software
Price: £6.95

Aesthetically, this is a delightfully presented game from the word go. To the strains of 'wooden heart' you are presented with a simple menu which enables you to go straight into the game at the difficulty level you require (1 is easy and 9 is hard) or go to the instructions instead. These are clear, logical and tastefully presented. I have the suspicion from the layout that this game has the younger members of the family as a target group. For example, instructions are got by pressing I, more instructions by pressing M and playing the game by pressing P — simple, self explanatory and very effective.

The game itself involves directing a two segment tapeworm around a maze full of pips. As you eat the pips the tail of your tapeworm grows as does your score. Eventually all the pips are devoured and the tapeworm has grown to its maximum. If you hit a side wall or try to eat yourself as you go along then you will lose a life of which there are three per game. When this happens a message warns you that a life has gone. If you gobble up cherries en route then you earn yourself a 250 point bonus. When you clear all the pips on the first level you get a bonus of 750 points. Throughout the eight levels which follow the tapeworm gets bigger at an increasingly quicker rate and the pips have greater values.

The colours are well chosen, the sound effects interesting and somehow sympathetic when you lose a life. High score, game score and life being used appear on screen. Conceptually it is a simple game, yet its fresh colourful graphics make it an inviting game to play nonetheless. It is well packaged, moderately challenging and moderately addictive and should appeal to the kids. It represents reasonable to good value for money.

JUMP CHALLENGE

Runs on: BBC
Made by: Martech
Price: £6.95

Jump challenge is a very well marketed program from the game concept through the packaging and the incentives.

The concept is of its type a novel one this being the first purpose designed program to cater for the current craze of stunt cycling and obstacle jumping. With joysick, sound and colour options the game location is an arena within which we see a stunt cyclist whose aim it is to please the assembled crowds with dangerous jumps over a variety of transport. The only limitations dictating you, the cyclist's, achievements are your abilities in controlling firstly a BMX bike and finally a fully powered motor cycle. The program proceeds by degree, if you manage to jump the barrels on your BMX so you progress on a motor cycle over increasing quantities

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of jeeps and trucks; far more difficult than it would appear.

Juggle with acceleration and length of approach, contend with wheelies and hopefully get everything right at the same time.

The graphics and sound are both of a very acceptable standard and although the game idea is quite simple it still holds that all important addition quality. Well packaged and appealing to the eye, with stickers and a competitions, the program should also find quite a few impulse buyers.

COPTER CAPERS

Runs on: BBC
Made by: A & F
Price: £6.90

It's more than normally difficult to write about this game as it is hard to criticize and yet it does not merit great praise. Probably the most realistic appraisal of its worth can be best illustrated by saying 'beauty is in the eye of the beholder'.

Instructions are on screen and are more than complete, their appeal being enhanced by scrolling in the manner of 'Ghouls'. Whilst there is no alternative to using the keyboard the few keys required can be redefined and in addition to a pause and mute sound facility the program contains most of the refinements accepted as normal.

The setting is the early 1900's with you flying a time-slipped helicopter. Your role is to rescue survivors from the sea whilst at the same time killing submarines and avoiding Air-ships. There Air-ships fire heat seeking missiles whose accuracy grows as the levels of play progress. Accumulate points for successful rescues and for kills made and finally proceed up the customary Hall of Fame table upon completion .

Following your achievements every two levels of progression sees an added task being that of landing your helicopter accurately on a points graduated landing pad avoiding other craft and defying the elements.

There are many nice touches within this program including descending ladders, good sound effects and pleasant graphics but, if you're over twelve years old, with little to enthuse about.

KILOPEDE

Runs on: Memotech MTX Series
Made by: Continental Software
Price: £6.95

This game from Continental Software mimics the arcade game Centipede. The program calls it 'Kilopead' so there is a bit of bad editing somewhere on someone's part. The object of the game is to eliminate a multisegmented Kilopede as it descends the screen and to knock out the stationary mushrooms which act as a sort of maze and which control the Kilopede's path and rate of descent. When you hit a Kilopede segment it transforms into a mushroom and the Kilopede carries on descending as the two left over sections in different directions.

This process continues until the Kilopede either touches your gun and you lose a life or until you clear the screen of all the bits of Kilopede, in which case you get points. The Kilopede starts to ascend the screen if you don't get rid of it by the time it reaches the bottom. From time to time animals appear on the screen which must be avoided or dealt with. If you accurately shoot them down you get bonus points. Some of these animals pursue you and others merely fall on you from above. They consist of crabs, fleas, spiders and jellyfish.

As the levels change the game gets more difficult with greater frequency of animals and quicker kilopede descent and ascent. The graphics are good with the response of the gun immediate. The firing rate is quite rapid and movement swift in all directions. Not much use is made of colour, but the sound effects provide a driving background which gives an increasing sense of urgency. There is on screen scoring with an indication of lives left. For once the instructions are very basic for a Continental program with no scoring key given. For example, you get an extra life on reaching 5000 points, but it's confusing that you appear not to at 10,000 when you need it more. You can use joysticks or keyboard to control your

gun. The box illustration is of the usual high standard. It is a good attempt to replicate the arcade game and is challenging and fairly addictive.

In that sense it is quite good value for money.

PETCH

Runs on: Commodore 64
Made by: Anirog
Price: £5.95

The scenario of this game revolves around Petch, the penguin who has stored his diamonds for safe-keeping in the garden of an old Eskimo hunter. The garden is a fenced enclosure that is littered with ice blocks from the igloo. As the weather becomes warmer some of the ice blocks begin to melt and the eggs that were hidden within them begin to hatch. From which develop two types of arctic monster, with whom contact would be fatal. So it is the penguin's task to keep as far away from them as possible. The penguin's movements are controlled by either the keyboard or a joystick.

To generalise, this is basically a game of survival whereby the penguin must avoid contact with the monsters for two minutes before he can proceed to the next level.

The monsters can be destroyed in one of two ways. The first by crushing them either between two blocks of ice or between an ice block and the enclosure fence. Blocks of ice can be moved by positioning the penguin behind the ice cube and then moving the joystick, with the fire button pressed, in the direction of the movement required. The second method of destroying the monsters is by standing against one of the enclosure boundaries and pressing the fire button. This causes the monsters in contact with the boundary at the time to be temporarily stunned so that Petch can then, for a few seconds only, crush the monsters by walking over them.

Additional bonus points can be awarded if Petch can arrange his scattered diamonds, by pushing them in a similar fashion as the ice cubes into either a horizontal or a vertical line.

The game begins with four monsters within the enclosure and an additional one with each level that is successfully cleared.

GOLDMINE

Runs on: Memotech MTX Series
Made by: Continental Software
Price: £7.95

This is a Manic Miner look alike from Continental. Your task is to collect bags of gold from the tunnels of a gold mine and deposit them in a bin at the minehead to gain points. You must go down ladders to access interconnecting labyrinths or pitshafts and tunnels where the gold lies.

Some of the bags of gold lie behind walls in sections and are obtained by first taking pickaxes (which have a limited lifespan) to break down the barriers. Other bonus bags of gold are placed in difficult to get at places. These are worth the effort as they count five times the ordinary bags in points.

If you don't score highly enough within a hidden time to pass on to the next level you lose a life. Thus the gold must be collected quickly. Whilst collecting the gold you must avoid the ghosts of miners trapped by phantasms and called 'evil lurchers' (I always thought they were guard dogs) which roam the mine.

If you touch one of these or a fireball or get bonked by a lift or an ore cart you lose a life. The same applies if you fall down a lift or pit shaft. To avoid losing lives therefore you must also collect the gold cautiously. You can avoid ore carts by grabbing hand holds in tunnel ceilings. Using this method, you give yourself time to pass on to the adjacent screen without mishap. There are three screens to each level which lie side by side to the right, starting with the original.

The game has five levels of increasing difficulty and complexity. The dripping and digging mine-like sound effects go well with the game, which has good colourful graphics and action. This is a well put together game with good screen instructions and plenty of challenging action. I had problems with the lifts which refused to take me and left me suspended in mid air, but I suspect that was due to my lack of skill.

One of the best games for the Memotech and well worth the money.

POLE POSITION

Runs on: TI99/4A (ROM Cartridge)
Made by: Atarisoft
Price: £14.95

This is a superb game, as it should be at the price.

It is the TI plug-in version of the arcade game. Atarisoft's versions for other machines were reviewed by Mike Roberts in the Games Computing October issue. What he said there also applies here. It is one of the most exciting and realistic games going and you will spend many a long hour with joystick — no gearstick — clenched in your sweaty fist. This TI version will make 99/4A owners realize just what their computers are capable of. Almost the full range of colours is used and the sound effects and music complement the scenes very well.

The object is to guide your racing car around a panoramic 3D race track on a qualifying lap to enable you to obtain a place in the race proper. If you score top bonus of 4000 points you have 1st, i.e. 'pole position' on the grid.

During the race proper, which starts after a tonal countdown to a hooter, you have to pass other cars on the track to accumulate points. The more you pass and the shorter your lap time the greater your bonus. This is carried forward to extended play on any additional lap. When the time runs out then the race ends. You can select between a one to eight lap race and novice, experienced or advanced levels of ability. experienced and advanced levels test your nerve and skill even more as a greater number of cars get in your way and at more awkward points on the course.

Your score, the game score, lap time, speed, passing and time bonuses all appear on screen. Speed can be changed from high to low as necessary during the race by pressing the fire button. Usual joystick controls are used for speed up, slow down, left and right. If you go round bends too fast your wheels screech, if you leave the track you get a warning beeper and slow down and should you crash into signs or other cars, you will have to start from that point again and catch the field up.

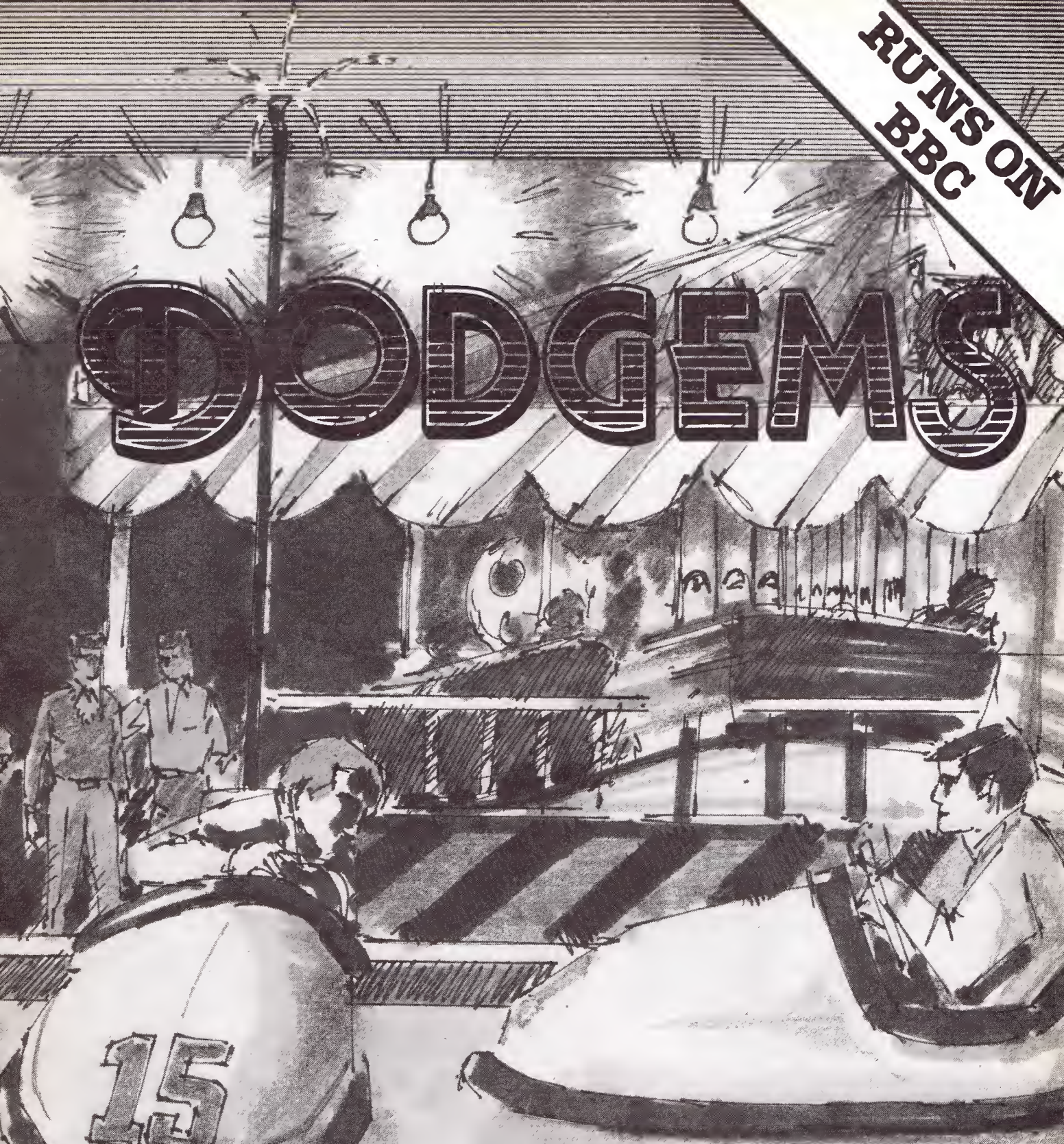
If there is any criticism it is the chunky graphics of the opposing cars and the rather angular cornering manoeuvres of your own. But that's being finicky. All told, a thoroughly stimulating game.

REVIEWS

Dodgems
20

RUNS ON BBC

DODGEMS



This program is about 5K long and will run on a BBC model B, 32K model A or an Electron. It will also run on any operating system for the BBC.

The game itself is a version of the arcade game. You are driving a racing car which speeds around a track collecting dots. Also the computer is controlling a similar car, which is racing in the other direction, you must avoid colliding with this.

The keys used to control the car are:

Z . . . . . left
X . . . . . right
*** . . . . . up**
? . . . . . down

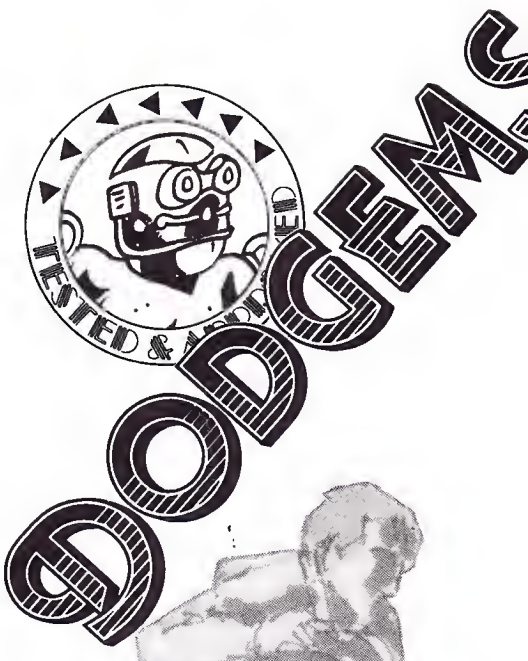
These are also described in the introduction.

Variables Used

HSC%	hi-score
SC%	present score
X% & Y%	position of player's car
G% & H%	direction of player's car
C%	character number of player's car
J% & K%	position of computer's car
J1% & K1%	direction of computer's car
C1%	character number of computer's car
R%	lane number the player's car is in
R1%	lane number the computer's car is in

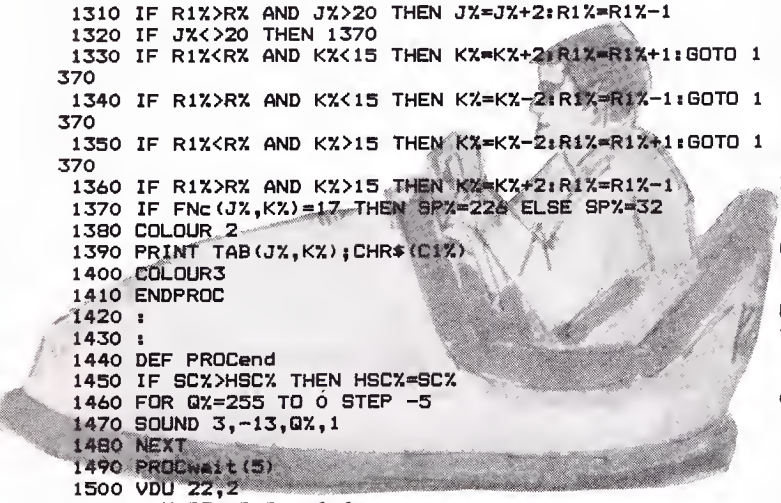
RUNdown

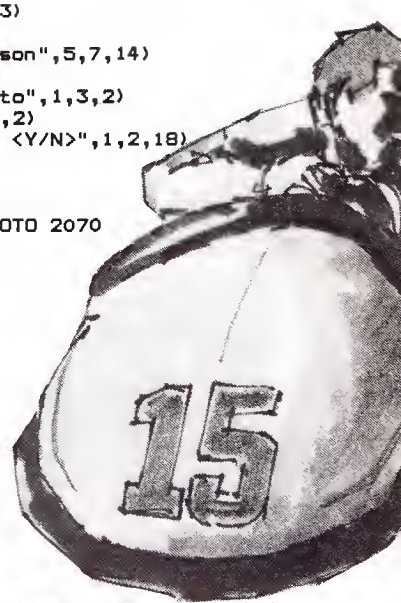
Lines/PROC	Action
20	gets rid of the flashing cursor.
30-90	sets up the computer ready to begin play, by calling the introduction routine and the character defining routine.
100-130	this is the main loop which calls up the major procedures.
PROCcharset	defines the characters using the data from lines 260-270.
PROCsetup	draws up the maze on the screen.
PROCmove	moves the players car around the screen and makes the keyboard controls take effect.
FNc(M%,N%)	returns the number in the location that corresponds to M% along and N% up on the screen, this is used to see if the car is going over a dot or not.
FNt(M%,N%)	converts M% along and N% up to the relevant memory location.
PROCotherway	moves the computer car so it tries to get in the same lane as the player.
PROCend	changes the hi-score if necessary and prints up the ending.
PROCso(W$)	this plays a tune using the letters placed in W$.
PROCwrite	this prints up the special writing effects.
PROCintro	this prints up the introduction using the data from lines 2290-2320.
PROCwait(T%)	makes the program pause for T% tenths of a second.




```
   10 MODE2
   20 VDU 23;8202;0;0;0;
   30 B%=72
   40 PROCintro
   50 MODE1
   60 VDU 23;8202;0;0;0;
   70 HSC%=0
   80 SC%=0
   90 PROCcharset
  100 PROCsetup
  110 PROCso("**** JAMES MCPHERSON JAMES MCPHERSON PAUL
 WILSHER MCPHERSON PATRICK HEIGHES ****")
  120 PROCmove
  130 GOTO 100
  140 END
  150 :
  160 :
  170 DEF PROCcharset
  180 RESTORE 260
  190 FOR Q%=225 TO 235
  200 READ Q,W,E,R,T,Y,U,I
  210 VDU 23,Q%,Q,W,E,R,T,Y,U,I
  220 NEXT
  230 ENDPROC
  240 :
  250 :
  260 DATA 0,0,255,255,255,255,0,0,0,0,0,24,24,0,0,0,60
,60,60,60,60,60,60,60,60,60,63,63,63,63,0,0,0,0,63,63,6
3,63,60,60,0,0,252,252,252,252,60,60,60,60,252,252,252,
252,0,0
  270 DATA 112,115,64,127,127,64,115,112,0,219,255,219,
24,24,90,90,14,206,4,254,254,4,206,14,90,90,24,24,219,2
55,219,0
  280 :
  290 :
  300 DEF PROCsetup
  310 VDU 19,1,7,0,0,0
  320 VDU 19,2,6,0,0,0
  330 VDU 19,3,3,0,0,0
  340 FOR Q%=1 TO 12 STEP 2
  350 FOR W%=Q% TO 30-Q%
  360 PRINT TAB(Q%,W%);CHR$227;CHR$226;
  370 IF W%>13 AND W%<18 AND Q%>1 THEN PRINT TAB(Q%,W%)
;" "
  380 NEXT
  390 PRINT TAB(Q%,Q%);CHR$229
  400 PRINT TAB(Q%,31-Q%);CHR$228
  410 NEXT
  420 FOR W%=27 TO 37 STEP 2
  430 Q%=12-(W%-27)
  440 FOR E%=Q% TO 31-Q%
  450 PRINT TAB(W%,E%);CHR$226;CHR$227;
  460 IF E%>13 AND E%<18 AND W%<37 THEN PRINT TAB(W%+1,
E%);" "
  470 NEXT
  480 PRINT TAB(W%+1,Q%-1);CHR$230
  490 PRINT TAB(W%+1,32-Q%);CHR$231
  500 NEXT
  510 FOR Q%=1 TO 12 STEP 2
  520 PRINT TAB(Q%+1,Q%);STRING$(38-Q%*2,CHR$225)
  530 IF Q%>1 THEN PRINT TAB(18,Q%);STRING$(4," ")
  540 PRINT TAB(Q%+1,Q%+1);STRING$(38-Q%*2,CHR$226)
  550 NEXT
  560 FOR W%=19 TO 30 STEP 2
  570 Q%=W%-19
  580 PRINT TAB(12-Q%,W%);STRING$(Q%*2+16,CHR$226);
  590 PRINT TAB(12-Q%,W%+1);STRING$(Q%*2+16,CHR$225);
  600 IF W%<29 THEN PRINT TAB(18,W%+1);STRING$(4," ")
  610 NEXT
  620 VDU 24,432;432;848;592;
  630 GCOL 0,131
  640 CLG
  650 VDU 24,448;448;832;576;
  660 GCOL 0,128
  670 CLG
  680 VDU 24,464;464;816;560;
  690 GCOL0,130
  700 CLG
  710 VDU 26
  720 COLOUR129
  730 COLOUR0
  740 PRINT TAB(17,15);"Score"
  750 COLOUR128
  760 COLOUR1
  770 PRINT TAB(2,2);CHR$232
  780 COLOUR2
  790 PRINT TAB(4,4);CHR$233
  800 ENDPROC
  810 :
  820 :
  830 DEF PROCmove
  840 X%=2:Y%=2
  850 G%=1:H%=0
  860 C%=232:J%=4
  870 K%=4:J1%=0
  880 K1%=1:C1%=233:R1%=2
  890 J%=4:K%=4:J1%=0:K1%=1:C1%=233:R1%=2
  900 R%=1:SP%=226
  910 REPEAT
  920 IF X%=Y%+8 AND H%=1 THEN H%=0:G%=-1:C%=234
  930 IF X%=Y% AND H%=-1 THEN H%=0:G%=1:C%=232
  940 IF X%+Y%=39 AND G%=1 THEN G%=0:H%=1:C%=233
  950 IF X%+Y%=31 AND G%=-1 THEN G%=0:H%=-1:C%=235
  960 PRINT TAB(X%,Y%);" ";
  970 X%=X%+G%
  980 Y%=Y%+H%
  990 IF Y%<15 OR Y%>16 THEN 1020
 1000 IF INKEY(-98) AND X%>2 AND (R%<6 OR H%=-1) THEN X
%=X%-2:R%=R%-(X%>20)+(X%<20)
 1010 IF INKEY(-67) AND X%<37 AND (R%<6 OR H%=1) THEN X
%=X%+2:R%=R%+(X%>20)-(X%<20)
 1020 IF X%<19 OR X%>20 THEN 1050
 1030 IF INKEY(-73) AND Y%>2 AND (R%<6 OR G%=1) THEN Y%
=Y%-2:R%=R%-(Y%>15)+(Y%<15)
 1040 IF INKEY(-105) AND Y%<28 AND (R%<6 OR H%=-1) THEN
 Y%=Y%+2:R%=R%+(Y%>15)-(Y%<15)
 1050 IF FNc(X%,Y%)=17 THEN SC%=SC%+1:COLOUR129:COLOUR0
:PRINT TAB(18,16);SC%;COLOUR128:SOUND 1,-3,100,1
 1060 COLOUR 1
 1070 PRINT TAB(X%,Y%);CHR$(C%)
 1080 COLOUR 3
 1090 PROCotherway
 1100 UNTIL (SC% MOD 503)=0 OR (J%=X% AND K%=Y%)
 1110 IF J%=X% AND K%=Y% THEN PROCend
 1120 PROCso
```

```
1130 :
1140 :
1150 DEF FNc(M%,N%)=?(HIMEM+N%*640+M%*16+4)
1160 DEF FNt(M%,N%)=(HIMEM+N%*640+M%*16+4)
1170 :
1180 :
1190 DEF PROCotherway
1200 IF J%=K%+8 AND J1%=1 THEN K1%=-1:J1%=0:C1%=235
1210 IF J%=K% AND J1%=-1 THEN J1%=0:K1%=1:C1%=233
1220 IF J%+K%=39 AND K1%=-1 THEN J1%=-1:K1%=0:C1%=234
1230 IF J%+K%=31 AND K1%=1 THEN J1%=1:K1%=0:C1%=232
1240 PRINT TAB(J%,K%);CHR$(SP%);
1250 J%=J%+J1%
1260 K%=K%+K1%
1270 IF K%<>16 THEN 1320
1280 IF R1%<R% AND J%<20 THEN J%=J%+2:R1%=R1%+1:GOTO 1
320
1290 IF R1%>R% AND J%<20 THEN J%=J%-2:R1%=R1%-1:GOTO 1
320
1300 IF R1%<R% AND J%>20 THEN J%=J%-2:R1%=R1%+1:GOTO 1
320
1310 IF R1%>R% AND J%>20 THEN J%=J%+2:R1%=R1%-1
1320 IF J%<>20 THEN 1370
1330 IF R1%<R% AND K%<15 THEN K%=K%+2:R1%=R1%+1:GOTO 1
370
1340 IF R1%>R% AND K%<15 THEN K%=K%-2:R1%=R1%-1:GOTO 1
370
1350 IF R1%<R% AND K%>15 THEN K%=K%-2:R1%=R1%+1:GOTO 1
370
1360 IF R1%>R% AND K%>15 THEN K%=K%+2:R1%=R1%-1
1370 IF FNc(J%,K%)=17 THEN SP%=226 ELSE SP%=32
1380 COLOUR 2
1390 PRINT TAB(J%,K%);CHR$(C1%)
1400 COLOUR3
1410 ENDPROC
1420 :
1430 :
1440 DEF PROCend
1450 IF SC%>HSC% THEN HSC%=SC%
1460 FOR Q%=255 TO 0 STEP -5
1470 SOUND 3,-13,Q%,1
1480 NEXT
1490 PROCwait(5)
1500 VDU 22,2
1510 VDU 23;8202;0;0;0;
1520 PROCwrite("You scored "+STR$(SC%),1,7,3)
1530 PROCwrite("Hi-score "+STR$(HSC%),2,3,13)
1540 PROCwait(20)
1550 PROCwrite("Do you want",1,7,2)
1560 PROCwrite("another game <Y/N>",1,7,8)
1570 E$=GET$
1580 IF E$="N" THEN CLS:END
1590 IF E$<>"Y" THEN VDU 7:GOTO 1560
1600 SC%=0
1610 VDU 22,1
1620 VDU 23;8202;0;0;0;
1630 GOTO 100
1640 END
1650 :
1660 :
1670 DEF PROCso(W$)
1680 FOR Z%=1 TO LEN(W$)
1690 Q$="* ABCDEFGHIJKLMNOPQRSTUVWXYZ"
1700 SOUND 2,-11,49+INSTR(Q$,MID$(W$,Z%,1))*10,1
1710 NEXT
1720 ENDPROC
1730 :
1740 :
1750 DEF PROCwrite(W$,R2%,R1%,LI%)
1760 VDU 5
1770 D%=1
1780 D%=D%*32
1790 L%=LEN(W$)*B%
1800 A%=640-L%/2-B%
1810 FOR Q%=1 TO LEN(W$)
1820 MOVE Q%*B%+A%,D%
1830 GCOL 0,R1%
1840 PRINT MID$(W$,Q%,1)
1850 GCOL 0,R2%
1860 MOVE Q%*B%+A%-6,D%+4
1870 PRINT MID$(W$,Q%,1)
1880 A=INKEY(5)
1890 SOUND 0,-5,4,1
1900 NEXT
1910 VDU 4
1920 FOR Q%=1 TO LI%
1930 A=INKEY(15)
1940 PRINT TAB(0,31)
1950 NEXT
1960 ENDPROC
1970 :
1980 :
1990 DEF PROCintro
2000 PROCwrite("Dodgem",1,3,1)
2010 PROCwrite("======",1,3,3)
2020 PROCwrite("by",2,3,3)
2030 PROCwrite("James Mcpherson",5,7,14)
2040 PROCwait(10)
2050 PROCwrite("Do you want to",1,3,2)
2060 PROCwrite("see the",1,3,2)
2070 PROCwrite("Instructions <Y/N>",1,2,18)
2080 *FX15,0
2090 E$=GET$
2100 IF E$="N" THEN ENDPROC
2110 IF E$<>"Y" THEN VDU 7:GOTO 2070
2120 PROCwrite("",5,7,16)
2130 VDU 22,1
2140 VDU 23;8202;0;0;0;
2150 B%=36
2160 RESTORE 2290
2170 REPEAT
2180 READ E$
2190 IF E$="END" THEN 2220
2200 PROCwrite(E$,2,1,2)
2210 PROCwait(5)
2220 UNTIL E$="END"
2230 *FX15,0
2240 A=GET
2250 B%=72
2260 ENDPROC
2270 :
2280 :
2290 DATA In this game you are a white car,which trave
ls clockwise around a,"racetrack,  collecting dots.","",
,--------------------,""
2300 DATA Another car travels in,the opposite directio
n.,This car must be avoided.,"",--------------------,""
2310 DATA To avoid the other car you,must change lanes
.,This is done by pressing one of,"the following keys,w
hilst going","past the gaps in the walls,",which separa
te the lanes.,""
2320 DATA Z......left ,X......right,*......up   ,?....
..down ,"","",--------------------,"","",Press any key t
o continue.,"END"
2330 :
2340 :
2350 DEF PROCwait(T%)
2360 TIME=0
2370 REPEAT UNTIL TIME>T%*10
2380 ENDPROC
```





Enterprise Review

From an external point of view the computer appears squareish, a far cry from the skinny QL and Amstrad, with the keyboard taking up most of the room on the front of the case. To the right is the built in joystick that gives the case its 'melted' look, this feature is one that will interest the games player most as it obviates the need for a costly add on extra. The feel of this joystick is very good, considering its use, and the construction is adequate to last a while, although I don't think that I would use it on a long term basis and I don't know what you would do if you wanted to replace it.

On either side of the rear section of the computer is the expansion slot (sensibly covered with a slide off plastic cover), and the cartridge port. The cartridge slot is quite good quality, as well it must be able to stand up to all the use it will be getting as the Basic is supplied on cartridge. Nowadays no computer can afford to be relased without a cartridge port.

The graphics ability of the Enterprise has been much talked about. Intellegent Software has promised miracles with the graphics and sound. Mike Roberts takes a good hard look at the computer that has been later than the infamous QL.

The rear of the machine is covered with copious interfaces, most of them with non-standard connections. From right to left there is the power input, similar to a Spectrum's, the RF output, the monitor connection, a non-standard edge connector, the tape I/O system , one out, one in, and two remote controllers. The LAN/serial connector. Centronics printer port, and both joystick ports are also edge connectors and require special connections and leads. This is not very good. There is an industry standard for joysticks, the nine pin 'D' type, hundreds of sticks are now closed to the Enterprise owner. The best thing about the BBC is that all its interfaces are standard — likewise the connectors. This tipifies the impression that the Enterprise gave me — but more of that later.

Keyboard Kapers

The keyboard is multi-coloured, with white on dark grey alpha-numeric keys, eight blue function keys, 12 green control keys, and a large red 'stop' button. There is also a red reset button at the rear that will reset the machine back to

Basic or the built in word processor or, with two presses into the self test mode of the operating system.

The feel of the keyboard is atrocious — truly bad. It is a long way above the Spectrum, but surprisingly similar to the dreadfulness of the Speccy + or the Quantum Lurch. It's not too bad for programming but writing this review on the built in word processor was a bit difficult.

Now onto the inbuilt hardware. Much has been made of the custom graphics and sound chips 'Nick' and 'Dave'. Both of these chips were meant to make everything else look like ancient relics. I shall start with the sound chip as this represents a bit dissapointment but some surprises.

Sound Advice

'Dave' is housed in a flat pack, a particularly efficient method of housing a chip. This type of chip was first developed by the military forces, as it is you could probably drive a tank across it. The sound generator has 22 registers, however only 16 of these registers are to do with sound generation. The rest are to control the main function of the chip — memory management and processor management. This single chip handles a lot of the Z80's upkeep functions such as memory decoding, interrupt handling, and I/O functions. This is very efficient use of hardware and enables the Enterprise to use access the huge amounts of memory that it can.

This means that the 64K of RAM advertised is a true amount, minus memory for the screen and system you get around 50K left — about the same as the Commodore Plus/4 that has a similar memory management system, but unlike the MSX computer which has only 28K left for use after starting off with the same or greatrer initial RAM size. This allows EXOS, the operating system, Basic, and the text editor/word processor all to reside on the address bus at the same time — yet take up no valuable memory space at all! It also allows you to access up to 4M RAM (apparently) as straight forwardly accessable memory.

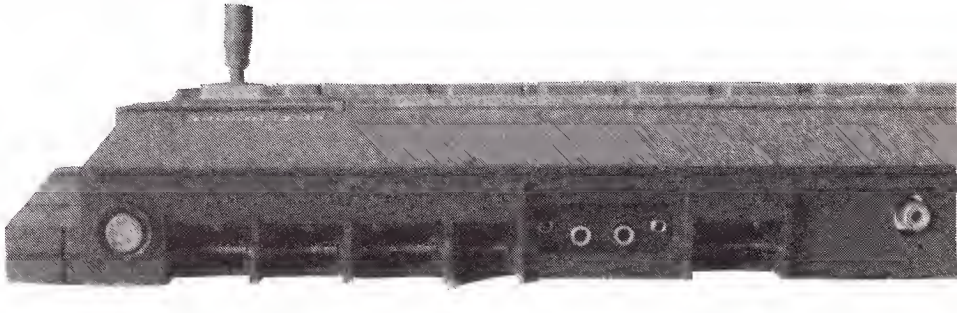
However impressive the memory mangement system of the computer is, this is not reflected in the sound output functions of the chip. The sound output is four channels of sound. Sound output is limited to a square wave, with programmable distortion with a simple filter and a certain amount of ring modulation. This is quite crude but the system comes into its own when you realise that there is TRUE stereo sound output through the (non-standard again) video output connector.

Ignoring the poor potential of the sound hardware for a minute, the software to drive it is excellent. Independant envelopes for left and right channels with differing styles (distortion) and the sound queueing is wonderful. I must make a point here that the sound is true stereo. The Amstrad has three sound channels. One can be the left channel, one the right, and the remaining one is fed to both. On the Enterprise all four channels go to each side with amptitude and envelope control independent, only pitch filtering, and modulation is global.

It is a pity that no synthesis is possible, as on the Commodore 64. The music demo is quite impressive, but the sound produced is very 'computery'. Another point to mention is the inbuilt sound output. It comes through a single Spectrum-like speaker mounted under the keyboard. This gives a very 'tinny' sound to the music, although, unlike the Spectrum, it can be very, very, loud. This is yet another example of the 'spoiled for hap'ath of tar' impression that the computer gives me.

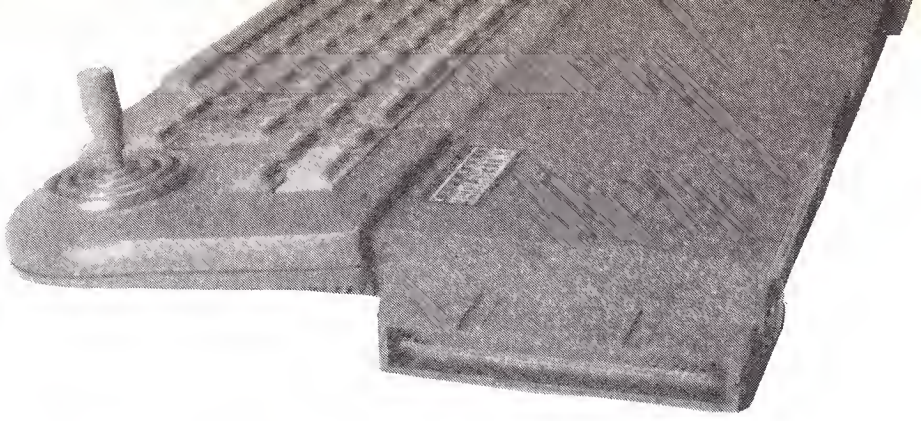
Graphic Details

'Nick', the graphics chip lives up to all my expectations. Disregarding sprites, it can do anything that any



other computer on the market can do — and a whole lot more. Programmers are goings to have a lot of fun programming this beast here is a list of some of the functions:

The whole graphics screen is reprogrammable in any way, so that each different scan line can be a different mode if need be. There is 256 scan lines on the screen with interlace seperately controlled for another 256. With careful programming it is possible to get a 672 horizontal graphics resolution with 512 vertical lines. There is a software driver on the demo tape to



Enterprise Review

give 640 by 360 graphics 80x50 text and a number of text lines on the bottom of the screen and the status line at the top. The screen flickers a lot, and you need a very good monitor to see the characters (a TV set will just display a series of blobs), but it is possible. The catch comes when you type INFO to see how much memory is left. The answer — 6990 out of arounf 50000 to start with — such is the penalty of hi-res, as BBC users will testify.

Text can be displayed at up to 80 characters per line and 256 colours, each character may be user definable and be composed of 1 to 256 scan lines each.

Attribute mode gives a programmable resolution with two colours selected for each square — like a Spectrum — out of the 256 available.

The hi-res and lo-res graphic screens give a very BBC like 2, 4, or 16 colour pallette selected from the 256 available, also if you are willing to accept a dreadful resolution, you can have the full 256 on the screen at the one time.

Sprites are not supported. This is more of a damnation of the video system than may at first be realised. For the game player and the game writer the absence of an ability to manipulate hi-res objects on the screen with very high speed. Very high resolution is all quite nice, but one of the main reasons why the Commodore 64 has knocked the Spectrum off the number one spot as the most popular machine. Also the Atari 800XL, the original design was finalised in 1979 — six years ago, has remained on the top partly due to its sprite graphics. The other reason that the screens look so good on the Atari is that each raster line is programmable — this gives infinite flexability to the graphics displays — up until now only the C64 and Atari have this horizontally reprogrammable display — now the Enterprise has the most impressive of them all — a pity about the sprites though.

The inbuilt software is EXOS, an excellent operating system that can handle almost anything, and a word processor. The word processor isn't up to the standard of most WP programs but what can you expect for a freebee?

It is more of a text editor than a true word processor. Entry to the processor is direct without Basic plugged in and by inputing 'TYPE' or function 8 from Basic. All of the functions are WYSIWYG with 80 or 40 columns selectable. Swopping from Basic to the WP destroys memory contents, as does switching display modes in the WP — which is a real shame. A very thoughful feature is the label that goes over the function keys. Normally, it displays what the keys do from Basic. But once in the word processor you can turn it over and it gives you the WP functions.

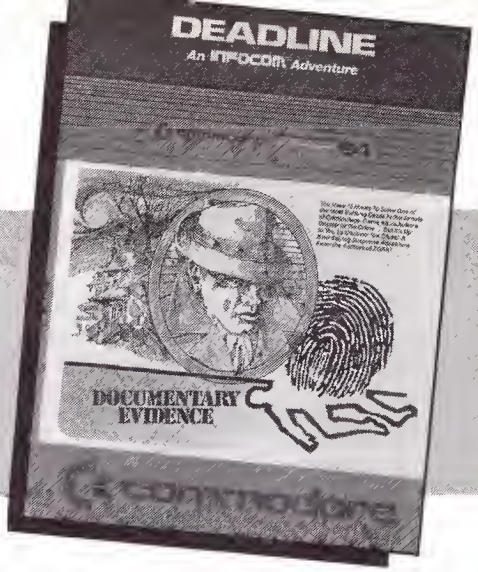
The Basic is quite comprehensive. Full graphics handling is supported — except really advanced object handling or shape manipulation — such as software sprites or shape tables. There is an animation demo on the introductory tape, but animation on a large scale using their method may be impractical.

A unique function of this Basic is the ability to have more than one program in memory at any one time. Each program can have a name and control can be passed between them.

I have few complaints about the Basic, it performs its task admirably — though it seems to be going out of fashion to give the games programmer any special facilities.

To conclude. This is quite an excellent machine. I would, however, re-evaluate my opinions about the machine after a long enough period of use.

INDEPTH REVIEW



To most software houses having six different titles concurrently in the Top 20 is an achievement scarcely dreamed of. To Infocom this is a way of life!

When leading American distributor Softsell began publishing a fortnightly games software chart some of Infocom's titles, including the renowned ZORK, were already on the market. ZORK and an ever-increasing number of other Infocom evergreens immediately made permanent homes at the top of Softsell's and everyone else's charts.

Nearly two and a half years later nothing has changed — except that there are more Infocom titles at the top. ZORK et al are still selling as well as ever.

Infocom's unprecedented success is striking proof that creativity and professionality still exist in the games arena. So what's their secret? Simple, they've stuck to what they're good at, which is text only adventure games of amazing depth and complexity. Couple this with some of the most innovative and outrageous packaging ever seen in a computer shop, slap a $50 price tag on the end and there you have it!

There have been two reasons why Infocom's American success has not been repeated in the U.K. Firstly, all their titles are disk based and secondly, historically, there has been a huge gap between price points in the UK and the US. But, with the gradual increase in the U.K.'s disk population, Commodore — to their eternal credit — decided to buy the rights to six of Infocom's early titles. These are ZORK I, II & III, STARCROSS, SUSPENDED and DEADLINE. The UK packaging is decidedly more modest but then so is the price, which at £11.95 represents fantastic value for money — provided you've got a disk drive.

DEADLINE is a perfect example of Infocom's interactive fiction, as they call it, and was the first of their Interlogic adventures. Written in 1982, DEADLINE is a 'who dunnit' adventure of the highest calibre.

The Plot

Mr. Marshall Robner, the industrialist and philanthropist was found dead yesterday morning in the library of his home. Apparently the suicide victim of an overdoes of the drug Ebullion, Robner was only discovered after the library door, locked from the inside, had been broken down with axes.

Three days earlier Robner had telephoned his solicitor, Warren Coates, to inform him of his decision to alter his will. Given the size of the estate, Coates has asked the chief of detectives (played by you) to quash any suspicions, which are inevitable in these circumstances. Mrs. Robner has reluctantly consented to allow you to spend one day (12 hours) in her house to confirm, or otherwise, the general consensus of opinion that Marshall Robner died of a self-administered overdose of Ebullion.

Better than Sherlock?

Melbourne House's Sherlock was a good detective adventure but DEADLINE leaves it standing in almost every department. Being disked based, data can continually be accessed from a large data base. Consequently, the location descriptions in DEADLINE are often well over a screen in length and paint a rich and vivid picture which adds to the authenticity of the game. Take, for example, ONLY AN EXCERPT from the description of the library:

"A pencil is lying on the floor near the desk.
Beside the desk is a large collapsible tray.
Sitting on the tray is a bowl containing a white powdery substance.
Alongside the desk is a wicker wastepaper basket.
The wastepaper basket contains:
a bunch of crumpled papers.
Lying on the floor, overturned, is a beautiful saucer.
Turned onto its side, lying on the floor, is a beautiful teacup.
Lying atop the desk is a pad of white note paper.
A desk calender is here, open to July 7th.
There is a bottle of Ebullion here".

This is where the body was found after supposedly drinking his late night cocoa and taking a handful of Ebullion. More about the pencil and note pad later.

Text Interaction

As with all Infocom adventures DEADLINE accepts complete and complicated sentences drawn from a very large vocabulary of "understood" words. Not only can you examine an object but you can also examine under, behind and near something as well.

You will meet a number of characters during the course of your investigations, some of which may have vital information which you must coax out of them. Shouting at people from a distance is strongly discouraged as it is considered rude and may make them less helpful. Once you and another person are in the same place you can ask questions or ask that person to do something for you. For example:

'Mrs. Jones, tell me about Mr. Jones'

and

'Fred, show me the bullet'

are both acceptable sentences. In building up a picture of the characters and their relationships with each other it is illuminating, to say the least, to see what they all think of each other — bitch, bitch! Objects can also be shown to people in order to see if they illicit any response, such as raised eyebrows etc.

Being In The Right Place At The Right Time

Mrs. Robner receives a phone call just after nine o'clock in the morning. When the phone rings she will make her way to one of the rooms in the house with a phone. If you follow her, she can be seen whispering something into the receiver and hurriedly replacing it. Such is the interactiveness of DEADLINE that you can restart, go up to the library (which also has a phone) and wait until the phone rings. Again Mrs. Robner answers the phone but this time you can listen in!

Some Hints

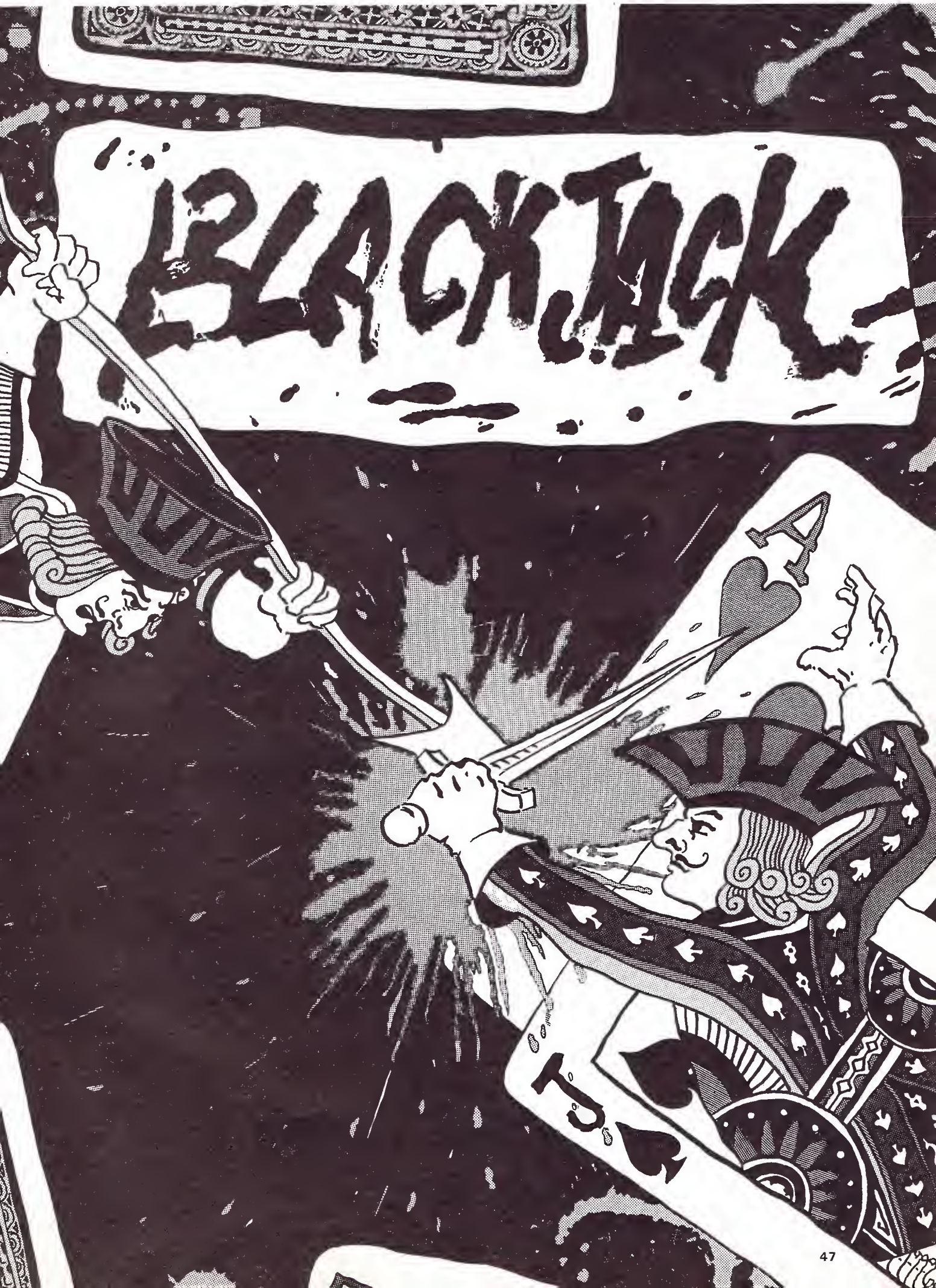
1. Always ask each character what they think of all the others.
2. The gardener may get very angry when he finds foot prints in the garden. Ask him to show them to you — there are vital clues in amongst the roses.
3. Count the crockery!
4. In the library, amongst other things, are a note pade and pencil. Type in "Shade note pad with pencil". This reveals impressions left by writing on the previous sheets. Only a few letters show up but it should be possible to put together the contents of the whole letter. Our version is as follows:

Baxter,
For the last time I must insist on your stopping a merger with Onmidyne Corporation otherwise I will be forced to . . . . . documents in my possession which are replicas of your Focus s. . . . . .
Please reconsider before it's too late,
Marshal

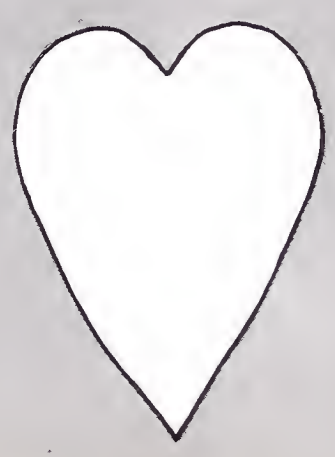
All in all DEADLINE is one of the most engrossing adventures I have ever played and one in which you genuinely feel that you have adopted the role of a Chief of Police trying to solve a case. If you have a Commodore 64 disk drive and you like having your mind stretched then this is for you.

Blackjack uses various Atari features: Player Missle Graphics (for the title screen), Antic modes 4 and 5 (for the cards and coloured letters/symbols) and Vertical Blank interrupts (this is the music in the initializing process, "STAR WARS").

I have written Blackjack on the Pet, BBC and Apple (I also had a go at the Spectrum, but uncle Clive must have been having a bad day when he was inventing the BASIC!!); Unfortunately I can't offer any tips on translating, as each program is completely different. I am 15, and go to Beacon School. As you might notice, the program is dedicated to Harriet Ainley who gave me moral support.

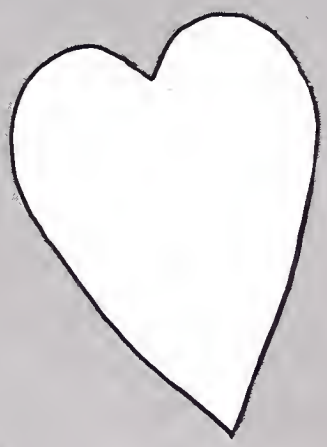

BLACK JACK

```
5 POKE 82,2:POKE 752,1:MONEY=10
10 DL=PEEK(560)+256*PEEK(561):GRAPHICS 0:FOR T=6 TO 28:
POKE DL+T,4:NEXT T:SETCOLOR 1,0,0:SETCOLOR 2,10,13:SETC
OLOR 0,15,15
20 ? "}     DEDICATED TO HARRIET AINLEY":POKE DL+7,6:POK
E DL+8,6:? :POSITION 1,2:? "SPROKKLEY PRESENTS"
30 POKE DL+10,7:POKE DL+11,7:? :? "  black jack":POKE D
L+3,69:FOR T=1 TO 900:NEXT T:POKE DL+3,66
40 FOR T=1 TO 900:NEXT T:POKE DL+3,69:FOR T=1 TO 900:NE
XT T
50 POKE DL+12,6:POKE DL+13,6:? :POSITION 0,5:? "WRITTEN
 BY S.BOXLEY   COPYRIGHT  1984":RESTORE 80
55 FOR T=0 TO 4:SETCOLOR T,0,0:NEXT T:SETCOLOR 1,15,15:
POSITION 0,0:? "                                        "
60 P=54279:R=106:S=559:G=53277:H=53248:PC=704:X=200:Y=1
0:A=PEEK(R)-8:POKE P,A:M=256*A:POKE S,46:POKE G,3
70 POKE H,X:FOR I=M+512 TO M+640:POKE I,0:NEXT I:FOR I=
M+512+Y TO M+518+Y:READ A:POKE I,A:NEXT I:POKE PC,152
80 DATA 8,17,35,255,32,16,8
90 SOUND 0,200,4,15:FOR T=200 TO 115 STEP -1:POKE H,T:F
OR Z=1 TO 10:NEXT Z:NEXT T:POKE DL+3,66
100 POSITION 18,0:? " ":SOUND 0,0,0,0:W=2^2:W=2^2
110 SOUND 0,200,4,15:FOR T=115 TO 30 STEP -1:POKE H,T:N
EXT T:SOUND 0,0,0,0
120 RESTORE 130:Y=Y+8:POSITION 18,0:? " ":FOR I=M+512+Y
 TO M+523+Y:READ A:POKE I,A:NEXT I
130 DATA 60,126,255,129,153,189,90,60,24,36,66,129
135 POKE 512+78+M,255:POKE M+79+512,255
140 FOR I=512+M+(Y-8) TO M+518+(Y-8):POKE I,0:NEXT I:PO
KE H,115:POKE PC,58
150 FOR G=1 TO 48:FOR I=12 TO 0 STEP -1:POKE M+512+Y+I,
PEEK(M+511+Y+I):NEXT I:Y=Y+1:SOUND 0,Y,10,15:NEXT G
160 POKE 512+78+M,0:POKE M+79+512,0:POKE 708,255:POKE 7
09,0:POKE 710,173:POKE 711,70:POKE 712,0
170 SOUND 0,0,0,0:POSITION 19,9:? "OUCH!!":FOR T=1 TO 9
00:NEXT T:POSITION 19,9:? "        ":OPEN #1,4,0,"K:"
180 DIM A$(24),B$(24),C$(24),D$(24),E$(24),Z$(24):A$="0
2406002412602403606606 6":B$="024060153126024231129000"
190 C$="024189090060024036066129":D$="02406015212602503
6066036":E$="024060024189090024036102"
200 POSITION 0,0:POKE DL+3,69:? "       DEDICATED TO HAR
RIET AINLEY":FOR I=M+512+Y TO M+523+Y:POKE I,0:NEXT I:Y
=71
210 RESTORE 280:FOR T=1 TO 164:READ A:SOUND 0,A,10,15:S
OUND 1,A*2,10,15:Z=INT(RND(0)*5):Z=Z*10:GOSUB 230+Z:S=1
:J=3
220 FOR I=512+M+Y TO 519+M+Y:POKE I,VAL(Z$(S,J)):S=S+3:
J=J+3:NEXT I:SOUND 0,0,0,0:SOUND 1,0,0,0:NEXT T:GOTO 33
0
230 Z$=A$:RETURN
240 Z$=B$:RETURN
250 Z$=C$:RETURN
260 Z$=D$:RETURN
270 Z$=E$:RETURN
280 DATA 81,81,81,81,81,81,0,0,81,81,81,81,81,81,0,0,64
,64,64,64,64,64,0,0,60,60,60,60,64,72,0,0,81,81,81,81,8
1
290 DATA 81,0,0,81,81,81,81,81,81,0,0,64,64,64,64,64,64
,0,0,60,81,60,0,0,47,53,60,64,72,81,81,81,72,81,0,0
300 DATA 45,45,45,81,45,47,47,47,0,0,47,53,60,64,72,81,
60,81,0,0,45,45,64,72,64,60,81,60,0,0
310 DATA 45,45,45,45,45,45,0,0,47,47,47,47,47,47,0,0,53
,53,53,53,53,53,0,0,60,60,60,60,53,47,0,0
320 DATA 45,45,45,45,45,45,0,0,47,47,47,47,47,47,0,0,53
,53,53,53,53,53,0,0,60,45,60,0,0
330 POKE H,0:POSITION 12,7:? "INSTRUCTIONS??":GET #1,A:
IF CHR$(A)="N" THEN 390
340 IF CHR$(A)="Y" THEN 360
350 ? "TRY TYPING Y or N":FOR T=1 TO 500:NEXT T:POSITIO
N 19,10:? "                    ":GOTO 330
360 POSITION 2,7:? "THIS GAME IS EXACTLY LIKE PONTOON":
? "i.e.YOU HAVE TO SCORE 21 OR UNDER"
370 ? "QUEENS,JACKS AND KINGS ALL EQUAL 10":? "IF AN AC
E APPEARS YOU HAVE TO TYPE    IN WHAT YOU WOULD LIKE IT
"
380 ? "TO BE(1 OR 11),THERE IS NO SECOND     CHANCE,SO
THINK WISELY":? :? "HOPE YOU ENJOY PLAYING blackjack"
390 ? :? "PRESS ANY KEY TO START":GET #1,A:FOR T=6 TO 2
8:POKE DL+T,4:NEXT T:? "}       PLEASE WAIT-INITIALIZIN
G"
400 GOSUB 7000:RESTORE 420
405 CH=PEEK(106):CH=(CH-8)*256:FOR L=0 TO 1023:BYTE=PEE
K(57344+L):POKE CH+L,BYTE:NEXT L:? "NEARLY FINISHED!!"
410 POKE 712,100:FOR T=97 TO 122:C=T:C=C*8:FOR L=0 TO 7
:READ BYTE:POKE CH+C+L,BYTE:NEXT L:NEXT T:POKE 756,CH/2
56
419 REM NEW,IMPROVED CHARACTER SET
420 DATA 60,195,195,195,255,195,195,195,252,3,3,3,12,48
,192,255,255,3,3,255,3,3,3,255
430 DATA 0,60,204,204,204,255,12,12,255,192,192,255,3,3
```

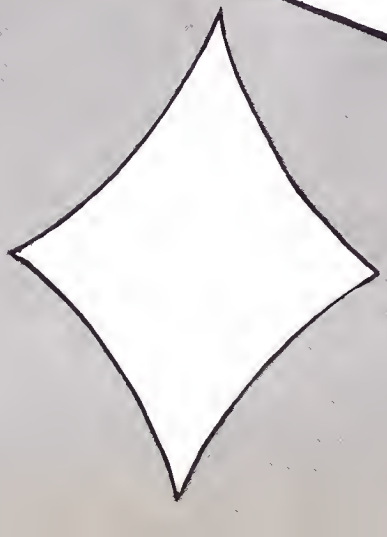


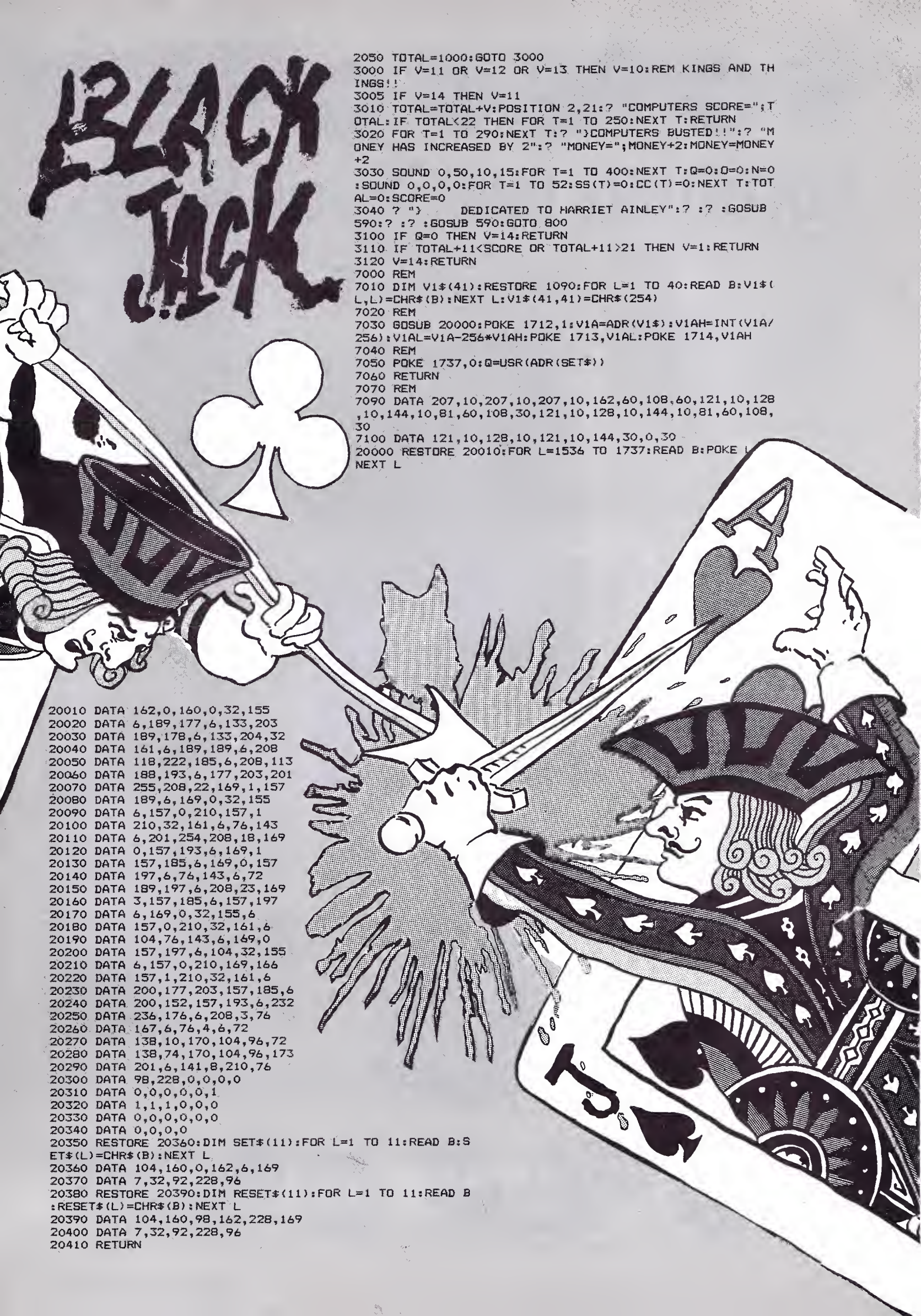
```
,195,60,60,192,192,252,195,195,195,60
440 DATA 0,255,255,3,15,60,48,48,60,195,195,60,60,195,1
95,60,60,195,195,63,3,3,12,240
450 DATA 207,207,207,207,207,207,207,207,255,12,12,12,1
2,12,204,252,60,195,195,195,195,195,204,51
460 DATA 195,195,204,240,240,204,195,195,20,65,65,65,85
,65,65,65
470 DATA 84,1,1,1,4,16,64,85,85,1,1,85,1,1,1,87,0,20,68
,68,68,85,4,4,85,64,64,85,1,1,65,20
480 DATA 20,64,64,84,65,65,65,20,0,85,85,1,5,20,16,16,2
0,65,65,20,20,65,65,20
490 DATA 20,65,65,21,1,1,4,80,69,69,69,69,69,69,69,69,8
5,4,4,4,4,4,68,84,20,65,65,65,65,65,68,84
499 DATA 65,65,68,80,80,68,65,65
500 RESTORE 510:FOR T=2 TO 9:C=T:C=C*8:FOR L=0 TO 7:REA
D BYTE:POKE CH+L+C,BYTE:NEXT L:NEXT T
510 DATA 255,255,255,255,255,255,255,255,85,85,85,85,85
,85,85,85,170,170,170,170,170,170,170,170,85,170,85,170
520 DATA 85,170,85,170,20,20,85,85,85,20,20,85,4,4,17,1
7,0,4,21,21,51,63,63,63,63,12,12,0,12,12,63,63,63,63,12
,12
530 ? "}":FOR T=97 TO 109:? CHR$(T);" ";:NEXT T:? :? :F
OR T=110 TO 122:? CHR$(T);" ";:NEXT T
540 POKE 708,0:POKE 709,152:POKE 710,52:POKE 711,255:PO
KE 712,248:DIM N$(7):? "}PLEASE NOTE:"
550 ? :? "& =SPADES":? :? "' =CLUBS":? :? "( =HEARTS":?
 :? ") =DIAMONDS":? :? "j OR w =THE NUMBER TEN[10]"
555 ? :? "YOU HAVE THE TOP ROW OF CARDS":? :? "YOU HAVE
 10 CHIPS[MONEY] TO PLAY WITH"
556 ? :? "IF A DRAW,DEALER[THE COMPUTER!!]WINS!!"
560 ? :? :? "PRESS A KEY":GET #1,A:? "}WHAT IS YOUR NAM
E[7 LETTERS MAXIMUM]":INPUT N$
570 ? "}":POSITION 2,0:? "WELCOME TO BLACKJACK ";N$:? :
? "PRESS A KEY":GET #1,A:? "}"
580 POSITION 2,0:? "    DEDICATED TO HARRIET AINLEY":PO
KE 82,1:? :? :Q=USR(ADR(RESET$)):SOUND 0,0,0,0:GOTO 630
590 ? "$$$$$$  $$$$$$  $$$$$$  $$$$$$  $$$$$$":? "$
$  $    $  $    $  $    $  $    $"
600 ? "$    $  $    $  $    $  $    $  $    $":? "$
$  $    $  $    $  $    $  $    $"
610 ? "$    $  $    $  $    $  $    $  $    $":? "$
$  $    $  $    $  $    $  $    $"
620 ? "$    $  $    $  $    $  $    $  $    $":? "$$$$$
$  $$$$$$  $$$$$$  $$$$$$  $$$$$$":RETURN
630 GOSUB 590:? :? :GOSUB 590:DIM SS(54),CC(54):Q=0:N=0
640 GOTO 800
650 C=INT(RND(0)*13)+1:V=C:S=INT(RND(0)*4)+1:N=N+1:CC(N
)=C:SS(N)=S:IF N=1 THEN 680
660 FOR D=1 TO (N-1):IF CC(D)=C AND SS(D)=S THEN N=N-1:
GOTO 650
670 NEXT D
680 IF S<3 THEN C=C+109:GOTO 700
690 C=C+96
700 POSITION 2+Q,4+O:? CHR$(C):POSITION 5+Q,4+O:? CHR$(
C):POSITION 2+Q,9+O:? CHR$(C):POSITION 5+Q,9+O:? CHR$(C
)
710 POSITION 3+Q,5+O:? CHR$(S+37);CHR$(S+37):POSITION 3
+Q,8+O:? CHR$(S+37);CHR$(S+37)
720 IF V=1 AND O=0 THEN GOSUB 1100:RETURN
```

```
730 IF V=1 THEN GOSUB 3100
740 RETURN
800 Q=0:SCORE=0:GOSUB 650:GOSUB 1000:Q=Q+8:GOSUB 650:GO
SUB 1000:POKE DL+6,2:POSITION 0,1
810 ? "       TWIST OR STICK??":GET #1,A:IF CHR$(A)="T"
THEN Q=Q+8:POKE DL+6,4:GOSUB 650:GOSUB 1000:GOTO 840
820 IF CHR$(A)="S" THEN GOTO 900
830 POSITION 0,1:GOTO 810
840 POKE DL+6,2:POSITION 0,1:? "       TWIST OR STICK?":
GET #1,A
850 IF CHR$(A)="T" THEN POKE DL+6,4:Q=Q+8:GOSUB 650:GOS
UB 1000:GOTO 880
```



```
860 IF CHR$(A)="S" THEN 900
870 GOTO 840
880 POKE DL+6,2:POSITION 0,1:? "       TWIST OR STICK?":
GET #1,A:IF CHR$(A)="S" THEN 900
890 IF CHR$(A)="T" THEN POKE DL+6,4:Q=Q+8:GOSUB 650:GOS
UB 1000:POSITION 0,1:? "FIVE CARDS IS YOUR LOT!!":GOTO
895
891 GOTO 880
895 FOR T=1 TO 400:NEXT T
900 POKE DL+6,4:POSITION 0,1:? "OKAY,YOU STICK ON ";SCO
RE;"            ":? "COMPUTERS GO!!!       ":POSITION 0,2
:? "  "
905 FOR T=1 TO 200:NEXT T
910 POSITION 0,2:? "
  ":GOTO 2000
999 END
1000 IF V=11 OR V=12 OR V=13 THEN V=10
1005 IF V=14 THEN V=11
1010 SCORE=SCORE+V:POSITION 0,2:? "SCORE=";SCORE;"   MO
NEY=";MONEY:IF SCORE<22 THEN RETURN
1015 ? "}YOU HAVE BUSTED!!"
1018 SOUND 0,255,10,15
1020 ? "MONEY DECREASED BY 2!!":MONEY=MONEY-2:? "MONEY=
";MONEY:IF MONEY>0 THEN 1040
1030 ? "}NO MORE MONEY":? "SUGGEST YOU SEE A LOAN SHARK
!!!":? :? :SOUND 0,0,0,0:GOTO 1140
1040 FOR T=1 TO 400:NEXT T:SOUND 0,0,0,0:Q=0:D=0:N=0:SC
ORE=0:TOTAL=0:FOR T=1 TO 52:SS(T)=0:CC(T)=0:NEXT T
1050 ? "}      DEDICATED TO HARRIET AINLEY":? :? :GOSUB
590:? :? :GOSUB 590:GOTO 800
1100 POSITION 0,2:? "IS THIS ACE GOING TO BE [A]1  [B]1
1"
1110 POKE DL+7,2:GET #1,A:IF CHR$(A)="A" THEN V=1:POKE
DL+7,4:POSITION 8,2:? "                                ":
RETURN
1120 IF CHR$(A)="B" THEN POKE DL+7,4:V=14:POSITION 8,2:
? "                              ":RETURN
1130 GOTO 1100
1140 ? "PLAY AGAIN[Y OR N]":GET #1,A:IF CHR$(A)="Y" THE
N GOTO 1170
1150 IF CHR$(A)="N" THEN ? "}GAME ENDED!!"
1160 ? "":GOTO 1140
1170 SOUND 0,0,0,0:Q=0:D=0:N=0:SCORE=0:TOTAL=0:FOR T=1
TO 52:SS(T)=0:CC(T)=0:NEXT T:MONEY=10
1180 ? "}      DEDICATED TO HARRIET AINLEY":? :? :GOSUB
590:? :? :GOSUB 590:GOTO 800
2000 Q=0:D=10:GOSUB 650:GOSUB 3000:Q=Q+8:GOSUB 650:GOSU
B 3000
2010 IF TOTAL>=SCORE THEN ? "}COMPUTERS BEATEN YOU HAND
S DOWN!!":GOTO 1018
2020 Q=Q+8:GOSUB 650:GOSUB 3000:IF TOTAL>=SCORE THEN ?
"}HA-HA!!COMPUTERS WON AGAIN!!":GOTO 1018
2030 Q=Q+8:GOSUB 650:GOSUB 3000:IF TOTAL>=SCORE THEN ?
"}THRASHED BY A COMPUTER[HOPELESS!!!!]":GOTO 1018
2040 Q=Q+8:GOSUB 650:GOSUB 3000:IF TOTAL>=SCORE THEN ?
"}THIS COMPUTER IS JUST TOO GOOD FOR YOU!":GOTO 1018
```






```
2050 TOTAL=1000:GOTO 3000
3000 IF V=11 OR V=12 OR V=13 THEN V=10:REM KINGS AND TH
INGS!!
3005 IF V=14 THEN V=11
3010 TOTAL=TOTAL+V:POSITION 2,21:? "COMPUTERS SCORE=";T
OTAL:IF TOTAL<22 THEN FOR T=1 TO 250:NEXT T:RETURN
3020 FOR T=1 TO 290:NEXT T:? "}COMPUTERS BUSTED!!":? "M
ONEY HAS INCREASED BY 2":? "MONEY=";MONEY+2:MONEY=MONEY
+2
3030 SOUND 0,50,10,15:FOR T=1 TO 400:NEXT T:Q=0:O=0:N=0
:SOUND 0,0,0,0:FOR T=1 TO 52:SS(T)=0:CC(T)=0:NEXT T:TOT
AL=0:SCORE=0
3040 ? "}     DEDICATED TO HARRIET AINLEY":? :? :GOSUB
590:? :? :GOSUB 590:GOTO 800
3100 IF Q=0 THEN V=14:RETURN
3110 IF TOTAL+11<SCORE OR TOTAL+11>21 THEN V=1:RETURN
3120 V=14:RETURN
7000 REM
7010 DIM V1$(41):RESTORE 1090:FOR L=1 TO 40:READ B:V1$(
L,L)=CHR$(B):NEXT L:V1$(41,41)=CHR$(254)
7020 REM
7030 GOSUB 20000:POKE 1712,1:V1A=ADR(V1$):V1AH=INT(V1A/
256):V1AL=V1A-256*V1AH:POKE 1713,V1AL:POKE 1714,V1AH
7040 REM
7050 POKE 1737,0:Q=USR(ADR(SET$))
7060 RETURN
7070 REM
7090 DATA 207,10,207,10,207,10,162,60,108,60,121,10,128
,10,144,10,81,60,108,30,121,10,128,10,144,10,81,60,108,
30
7100 DATA 121,10,128,10,121,10,144,30,0,30
20000 RESTORE 20010:FOR L=1536 TO 1737:READ B:POKE L
NEXT L
20010 DATA 162,0,160,0,32,155
20020 DATA 6,189,177,6,133,203
20030 DATA 189,178,6,133,204,32
20040 DATA 161,6,189,189,6,208
20050 DATA 118,222,185,6,208,113
20060 DATA 188,193,6,177,203,201
20070 DATA 255,208,22,169,1,157
20080 DATA 189,6,169,0,32,155
20090 DATA 6,157,0,210,157,1
20100 DATA 210,32,161,6,76,143
20110 DATA 6,201,254,208,18,169
20120 DATA 0,157,193,6,169,1
20130 DATA 157,185,6,169,0,157
20140 DATA 197,6,76,143,6,72
20150 DATA 189,197,6,208,23,169
20160 DATA 3,157,185,6,157,197
20170 DATA 6,169,0,32,155,6
20180 DATA 157,0,210,32,161,6
20190 DATA 104,76,143,6,169,0
20200 DATA 157,197,6,104,32,155
20210 DATA 6,157,0,210,169,166
20220 DATA 157,1,210,32,161,6
20230 DATA 200,177,203,157,185,6
20240 DATA 200,152,157,193,6,232
20250 DATA 236,176,6,208,3,76
20260 DATA 167,6,76,4,6,72
20270 DATA 138,10,170,104,96,72
20280 DATA 138,74,170,104,96,173
20290 DATA 201,6,141,8,210,76
20300 DATA 98,228,0,0,0,0
20310 DATA 0,0,0,0,0,1
20320 DATA 1,1,1,0,0,0
20330 DATA 0,0,0,0,0,0
20340 DATA 0,0,0,0
20350 RESTORE 20360:DIM SET$(11):FOR L=1 TO 11:READ B:S
ET$(L)=CHR$(B):NEXT L
20360 DATA 104,160,0,162,6,169
20370 DATA 7,32,92,228,96
20380 RESTORE 20390:DIM RESET$(11):FOR L=1 TO 11:READ B
:RESET$(L)=CHR$(B):NEXT L
20390 DATA 104,160,98,162,228,169
20400 DATA 7,32,92,228,96
20410 RETURN
```

ADVENTURE into PROGRAMMING

Over the last few months, we have looked at the main problems you're likely to come across when trying to write an adventure game. In this final article, I want to look at some of the 'extras' which you can add to your game to turn it into a truly professional piece of work.

One of the most imporant aspects of an adventure which can spoil an otherwise excellent game is screen presentation. It's important to ensure that there are no spelling mistakes and that words are not split on the screen. I'd also advise you to make full use of colour and sound in order to make the game look good.

Many people are put off typing an adventure game written in BASIC into their computer because it is usually possible to solve it just by looking at the listing. There are two approaches which can be adopted to solve this. You could make the program unlistable by POKING a clear screen command into a REM statement at the start of the program.

Listing one illustrates how to do this on the Beeb, but a similar technique is possible on most machines if you know where you are poking!

Listing 1

```
10 REM * * (C) Fred Bloggs * *
```

If you make this the first statement of your program and then type ?(PAGE +7)=&15 and press RETURN, it will POKE the clear screen command into the 7th byte of your program which is in a REM statement. Your program will then RUN, but you will be unable to list it!

This technique is only of use if you intend to sell your program on tape and any player who knows what they are doing can crack this one!

An alternative method of making it difficult for a player to cheat and solve the game by listing it is to shift the contents of your DATA lines along the ASCII code. Supposing location 15 is given a description in line 1000

```
1000 DATA in a tiny wooden hut. There is a large dog asleep in one corner.
```

Shifting this by one in the alphabet would produce:

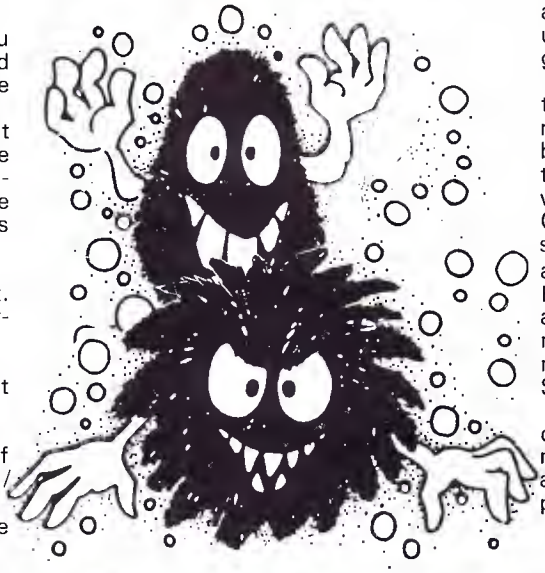
```
1000 DATA jo!b!ujoz!xppefp!ivu/!Uifsf!jt!b!mbshf!eph!btmffq!jo!pof!dpsofs/
```

This is enough to deter even the most ardent cheater, but does require great patience when writing it. It also needs to be converted back to normal text. If this description is held as element 15 of the array A$, it can be converted back to normal with the following routine:

```
2000 FOR X=1 TO LEN(A$(15)
2010 B$=B$+CHR$(ASC(MID$(A$(15),X,1)-1))
2020 NEXT X
```

This of course looks at the ASCII code for each letter in the string, subtracts one from it and adds it to B$. One unfortunate effect of using this sort of technique is that it will slow the game down considerably, especially if the descriptions are very lengthy. If you have ever tried to list your favourite game, you will probably find that it has been written in machine code, which allows the speed of the program to be increased as well as taking up less memory, especially if data compression techniques are used.

Most new adventures arriving on the market now contain graphics, unless written for a machine in which memory is at a premium. Personally, I've always preferred the totally text adventure because the mind can create a much more vivid image than any computer graphics, especially if the text is as detailed as the 'Level 9' adventures. However, many people would disagree with me on this and it's almost inevitable that you will want to try to add graphics to one of your games at some stage. There are many ways of achieving this and it would be pointless in an article like this to try to explain in detail how this is done, as it will depend upon the graphics facilities available in your machine.



However, in principle, all that is needed is a simple routine in the main program loop such as

```
122 ON P% GOSUB 1000,2000,3000,4000
```

Assuming that you have used the variable P% to hold the number of the location you are in at the moment. This would have the effect of passing control of the program to the subroutine 1000 if you are in location 1, subroutine 2000 if you are in location 2 etc. Each subroutine could hold the graphics for the location. One disadvantage of doing this in BASIC is that the commands will use a vast amount of memory, especially on the Beeb and in addition will slow the program down.

A far better solution, if you have discs or microdrives is to store a screen picture of each location as a file on disc and load it in from disc each time you visit a new location. This does in fact make a great deal of sense, as you can draw your graphics using one of the excellent 'Artist' programs around and this will save time and allow much more complex pictures to be built up. So far, few commercial programs have made use of this 'graphics overlay' technique because the program is intended to be sold on tape, but as disc drives become cheaper and more widely available, we are likely to see many more programs using this method of producing graphics.

If you can remember back as far as the first article in the series, you will recall that I set the plot for an adventure based upon the antics of Cedric the toothless vampire and you may have wondered what has become of poor Cedric in his quest to recover his teeth so that he might feed again. This adventure, which was written on the Beeb but using only statements which are common to the majority of machines. There will also be a list of modifications for Commodore 64, Spectrum, Oric, and Amstrad.

Of course a game deliberately to be compatible with a large number of machines cannot be as sophisticated as a machine specific game, but it should prove to be quite a challenge to solve!

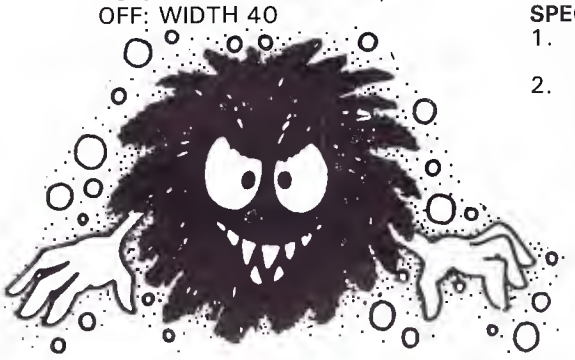
Specific Machines

BBC/ELECTRON
The program was written in MODE 7 on the BBC micro and the CHR$ command is used to introduce colour. Electron users should use MODE 6 and could change the colour of the screen with VDU 19,0,1,0,0,0.

AMSTRAD CPC464
1. Remove all reference to CHR$ and replace with PEN commands to select colours.
2. Add line 25 MODE 1 and select your choice of colours using INK.

MSX machines
1. Remove all reference to CHR$ commands which are only used to change the colour.
2. Add line 25

   25 SCREEN 0: COLOR 1,15: KEY OFF: WIDTH 40



ORIC
1. DATA lines will be too long to type in as one line. These can be split into several different lines and the descriptions of locations shortened.
2. Other long lines which begin with IF will need to be split into several lines all beginning with the same IF condition.
3. Add line 25

   25 TEXT: PEN 7:PAPER 0: GRAB

   using pen and paper commands to suit yourself.
4. Insert a garbage collection line:

   265 F=FRE(" ")

   no other changes will be necessary as the CHR$ commands select colour in a similar way to the BBC.

SPECTRUM
1. The CHR$ commands should be replaced with PEN to select colour.
2. All string handling will need to be replaced with SPECTRUM equivalents. This has been discussed in the previous articles and would take up too much space to describe here. However:

   B$=Z$(1 TO 2) is equivalent to B$=LEFT$(Z$,2)
   B$=Z$(2 TO 4) is equivalent to B$=MID$(Z$,2,2)

COMMODORE 64
1. See comments 1 and 2 for ORIC.
2. Remove all CHR$ commands which are used to change the colour. These can be replaced by typing the control codes in directly at the keyboard.
3. CLS is used to clear the screen and should be replaced by either PRINT CHR$(147) or typing the control code into a print statement.
4. Add line 25

   25 POKE 53280,1:POKE 53281,1

   to change the background and border colours.

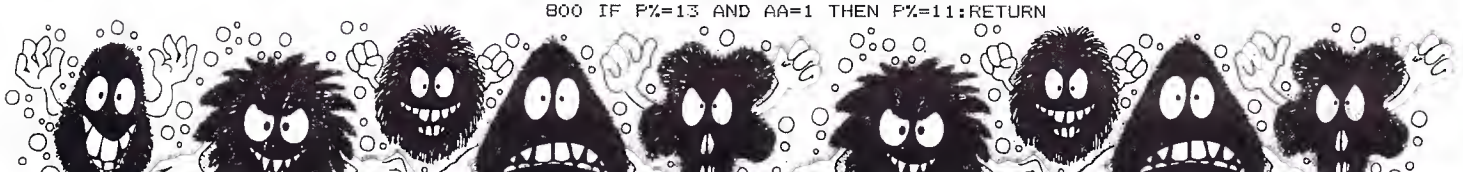
TRS80/VIDEO GENIE
no changes needed.

SHARP
See 1,2,3 on Commodore 64.

```
   10 REM ** The Revenge of the Toothless Vampire **
   20 REM ** An adventure game for BBC/ELECTRON/MSX/ORIC/C64/AMSTRAD e
tc **
   30 AA=0:AB=0:AC=0:AD=0:AE=0:AF=0:AG=0:AH=0:AI=0:AJ=0
   40 CLS:P%=2:X$="":PRINT" The Revenge of the Toothless Vampire"
   50 DIM Q$(45),S%(45,4),G$(20),B%(20),N$(20),N%(20),V$(5)
   60 FORX=1TO44:READQ$(X):FORY=1TO4:READS%(X,Y):NEXTY:NEXTX
   70 FOR X=1 TO 20:READ G$(X),B%(X),N$(X):N%(X)=X:NEXT X
   80 CLS
   90 IF P%=45 THEN 500
  100 PRINTCHR$(129);"I am :-":PRINTQ$(P%):A$=""
  110 IFS%(P%,1)<>0THENA$="North"
  120 IFS%(P%,2)<>0ANDLEN(A$)>0THENA$=A$+",South"
  130 IFS%(P%,2)<>0ANDLEN(A$)=0THENA$="South"
  140 IFS%(P%,3)<>0ANDLEN(A$)>0THENA$=A$+",East"
  150 IFS%(P%,3)<>0ANDLEN(A$)=0THENA$="East"
  160 IFS%(P%,4)<>0ANDLEN(A$)>0THENA$=A$+",West"
  170 IFS%(P%,4)<>0ANDLEN(A$)=0THENA$="West"
  180 IF P%=7 THEN A$="Down"
  190 PRINTCHR$(130);"I can go :-":PRINTA$
  200 E=0:FOR T=1 TO 20:PP%=0:IF B%(T)=P% THEN PP%=1
  210 IF PP%=1 THEN 230
  220 NEXT T: GOTO 250
  230 IF E=0 THEN PRINT CHR$(131);"I can see :-"
  240 PRINTG$(T):E=E+1:GOTO 220
  250 PRINTCHR$(133);"What shall I do now ";:INPUT Z$
  260 CLS:B$=LEFT$(Z$,2):C$=LEFT$(Z$,3):D$=LEFT$(Z$,4)
  270 IF B$="N" AND S%(P%,1)>0 THEN P%=S%(P%,1):GOTO 90
  280 IF B$="S" AND S%(P%,2)>0 THEN P%=S%(P%,2):GOTO 90
  290 IF B$="E" AND S%(P%,3)>0 THEN P%=S%(P%,3):GOTO 90
  300 IF B$="W" AND S%(P%,4)>0 THEN P%=S%(P%,4):GOTO 90
  310 IF B$="N" OR B$="S" OR B$="E" OR B$="W" THEN PRINT"I can't go th
at way":GOTO 90
  320 IF C$="CLI" OR B$="UP" THEN GOSUB 670
  330 IF C$="DOW" THEN GOSUB 710
```

```
  340 IF C$="IN" THEN GOSUB 800
  350 IF C$="GET" OR C$="TAK" THEN GOSUB 830
  360 IF C$="SCO" THEN PRINT"This isn't a game you know!"
  370 IF C$="PRA" THEN PRINT "That made me feel better!"
  380 IF C$="INV" THEN GOSUB 1080
  390 IF C$="SPR" THEN GOSUB 1520
  400 IF C$="HEL" THEN PRINT"I haven't a clue!"
  410 IF C$="GIV" OR C$="DRO" OR C$="LEA" THEN GOSUB 1120
  420 IF C$="WAI" THEN GOSUB 1280
  430 IF C$="PUL" THEN GOSUB 1330
  440 IF C$="WEA" THEN GOSUB 1360
  450 IF C$="REM" AND AI=1 THEN PRINT"I can't get them off my hands":G
OTO 90
  460 IF C$="REM" THEN PRINT"Don't be absurd!"
  470 IF C$="HIT" OR C$="SMA" THEN GOSUB 1410
  480 IF C$="UNL" THEN GOSUB 1470
  490 IF P%<>45 THEN 90
  500 IF AD<1 THEN PRINT"I just remembered. I forgot my teeth!":PRINT"
I run back!":P%=2:GOTO 90
  510 CLS:PRINT"Well Done You have helped poor old      Cedric to solv
e this adventure"
  520 END
  530DATA in the dentists surgery. There is a     large chair in the m
iddle,0,0,2,0,in a dingy waiting room. A pile of old  magazines is pil
ed on a chair in the    corner,0,9,3,1,in a small corridor,0,0,0,2
  540DATA in a disused surgery. A tatty dentists  chair stands in one
corner,0,0,5,3,in a narrow passage,0,6,0,4,at the bottom of a steep fl
ight of steps,5,0,0,0,in a small sparsely furished room.      Steps le
ad down,0,0,0,0
  550DATA in an overgrown garden,0,0,0,9,in a doorway. A plaque on the
 wall reads'Dr TOOTH...Dentist',2,15,8,0
  560DATA by a well stocked bar,0,0,0,11,in an elegant cafe,12,13,10,0
,by a pile of tables,0,11,0,0,outside a small cafe. There's a bouncer
on the door,0,0,14,0,on the pavement at the side of a main   road,0,0,
15,13
```

```
  570DATA by a pelican crossing. The traffic is   very heavy here,9,0,
0,14,in the town centre. The heavy traffic   stops me crossing the roa
d,0,21,17,0,outside a gunsmiths. It is closed,0,22,0,16,at the top of
a steep cliff,0,0,19,0
  580DATA on a bracken covered hillside,0,24,20,18,on a small plateau,
0,0,0,19,outside the village blacksmiths. It's locked,16,0,22,0,by the
 side of a wide river. There is a drawbridge here,17,0,0,21
  590DATA on the banks of a river. There is a     drawbridge here,0,28
,0,0,in a thick fog,19,24,24,24,by a magnificent altar,0,0,26,0,in an
eerie crypt,0,31,27,25,at the entrance to a magnificent temple,0,0,28,
26
  600DATA walking between two rows of very tall   plants which look li
ke triffids,23,0,0,27,on a misty mountain top,0,0,30,0,outside a stran
ge castle. A soldier is  to be seen on the battlements,0,0,0,29
  610 DATA at the top of some steps,26,34,0,0,at the bottom of some st
eps,0,35,0,0,in a gloomy courtyard. Peasants are     pushing coffins a
round.,0,38,0,0,in an antechamber,31,0,0,0
  620 DATA in a dark cavern. Blood drips down the  cobweb covered wall
s
  630DATA 32,0,0,0,at the bottom of the west tower,0,0,37,0,in a quadr
angle. There are vultures     overhead,0,42,38,36,in an passage. The w
alls are lined with ancient sepulcres,33,43,39,37,in a passage lit by
torches in the walls,0,0,40,38
  640DATA by a large oak door. A wreath of garlic is fastened to the d
oor,0,0,0,39,in a large bedroom. There is a four     poster bed in the
 corner,0,0,42,0,in a library. There's a coat of arms on the wall,37,0
,43,41
  650DATA by a large tomb,38,0,0,42,in a secret chamber,42,0,0,0
  660 REM ** GO UP **
  670 IF P%=6 THEN P%=7:RETURN
  680 IF P%=32 THEN P%=31:RETURN
  690 PRINT"I can't do that here!":RETURN
  700 REM ** GO DOWN **
  710 IF P%=7 THEN P%=6:RETURN
  720 IF P%=31 THEN P%=32:RETURN
  730 PRINT"I can't do that here!":RETURN
  740 DATA an old copy of the 'Dentist's Gazette',2,GAZETTE,a glass of
 'Bull's Blood' wine,10,WINE,a clove of garlic,8,GARLIC
  750 DATA a golden candlestick,25,CANDLE,a crucifix,35,CRUCIFIX,a set
 of false teeth,1,TEETH
  760 DATA a pair of rubber gloves,7,GLOVES,a large metal lever,22,LEV
ER,a large rock,18,ROCK,a large dancing skeleton that I can't   get pa
st,40,SKELETON
  770 DATA an angry dentist,3,DENTIST,a giant lizard,42,LIZARD,a disco
 ticket,5,TICKET
  780 DATA a jar of lizard repellent,12,REPELLENT,a large silver key,4
4,KEY,a priest holding a giant crucifix,30,PRIEST
  790 DATA a large bible,35,BIBLE,a jar of jam,11,JAM,a drill,4,DRILL,
a paint pot,37,a peasant,37,PEASANT
  800 IF P%=13 AND AA=1 THEN P%=11:RETURN
```



```
  810 IF P%=13 THEN PRINT"The bouncer says 'Where's your ticket?":RETU
RN
  820 PRINT"I can't do that just yet!":RETURN
  830 GOSUB 1030:IF L%<1 THEN RETURN
  840 E%=0:FOR H=1 TO 20:IF B%(H)=P% AND B%(N%(R))=P% THEN E%=1
  850 NEXT:IF E%=0 THEN RETURN
  860 IF R=13 THEN AA=1
  870 IF R=1 THEN AB=1
  880 IF R=3 THEN PRINT"Vampire's can't carry garlic!":RETURN
  890 IF R=4 THEN PRINT"A secret panel moves aside and I walk   throug
h it!":P%=24:RETURN
  900 IF R=5 THEN PRINT"I can't go near to a crucifix!":RETURN
  910 IF R=8 OR R=10 OR R=12 OR R=11 OR R=16 THEN PRINT"Don't be absur
d!":RETURN
  920 IF R=2 THEN AC=1
  930 IF R=6 THEN AD=1
  940 IF R=7 THEN AE=1
  950 IF R=9 THEN AF=1
  960 IF R=14 THEN AG=1
  970 IF R=15 THEN AH=1
  980 IF R=17 THEN AJ=1
  990 E%=0:FOR D=1 TO 5
 1000 IF V$(D)="" THEN V$(D)=G$(N%(R)):E%=1:D=6
 1010 NEXT:IF E%=0 THEN PRINT"My hands are full!":RETURN
 1020 B%(N%(R))=0:RETURN
 1030 L$="":FOR H=1 TO LEN(Z$)
 1040 IF MID$(Z$,H,1)=" " THEN L$=RIGHT$(Z$,(LEN(Z$)-H)):H=80
 1050 NEXT:R=0:L%=0:IF LEN(L$)<2 THEN RETURN
 1060 FOR H=1 TO 20:IF LEFT$(N$(H),LEN(L$))=L$ THEN L%=1:R=H
 1070 NEXT:RETURN
 1080 E%=0:PRINT"I am carrying :-":PRINTX$:FOR H=1 TO 5
 1090 IF V$(H)<>"" THEN PRINTV$(H):E%=1
 1100 NEXT:IF E%=0 THEN PRINT"Nothing at all!"
 1110 RETURN
 1120 GOSUB 1030:IF L%<1 THEN PRINT"I can't see a ";L$:RETURN
 1130 E%=0:FOR D=1 TO 5
 1140 IF V$(D)=G$(N%(R)) THEN V$(D)="":E%=1
 1150 NEXT:IF E%=0 THEN PRINT"I'm not carrying a ";L$:RETURN
 1160 B%(N%(R))=P%
 1170 IF P%=3 AND R=1 THEN S%(3,3)=4:PRINT"The dentist thanks me and l
ets me pass":B%(1)=0:B%(11)=0:RETURN
 1180 IF R=1 THEN AB=0
 1190 IF R=2 THEN AC=0
 1200 IF R=6 THEN AD=0
 1210 IF R=7 THEN AE=0
 1220 IF R=13 THEN AA=0
 1230 IF R=14 THEN AG=0
 1240 IF P%=30 AND R=17 AND C$="GIV" THEN PRINT"The priest thanks me a
nd lets me pass":G$(16)="a smiling priest":G$(17)="":S%(30,2)=33
 1250 IF R=15 THEN AH=0
 1260 IF R=17 THEN AJ=0
 1270 RETURN
 1280 PRINT"O.K.":FOR X=1 TO 1000:NEXT
 1290 IF P%=15 THEN PRINT"The lights change and I cross the road":P%=1
6:RETURN
 1300 IF P%=16 THEN PRINT"The lights change and I cross the road":P%=1
5:RETURN
 1310 IF P%=24 THEN PRINT"The fog lifts":Q$(24)="on a misty hillside.
There is a narrow  path to the south":S%(24,2)=29:S%(24,3)=0:S%(24,4)=
0
 1320 RETURN
 1330 IF P%<>22 THEN PRINT"Not here!":RETURN
 1340 IF AI<>1 THEN PRINT "AAAGGGHH. I get an electric shock!":RETURN
 1350 PRINT"The drawbridge comes down!":S%(22,3)=23:RETURN
 1360 IF AE<>1 THEN PRINT"I haven't got anything to wear!":RETURN
 1370 IF AI=1 THEN PRINT"I'm already wearing them!":RETURN
 1380 AI=1:FOR X=1 TO5:IF V$(X)=G$(7) THEN V$(X)=""
 1390 NEXT X:X$="A pair of rubber gloves ...worn! PLUS:-"
 1400 PRINT"O.K.":RETURN
 1410 IF P%<>40 THEN PRINT"I can't do that here!":RETURN
 1420 IF AF<>1 THEN PRINT"I have nothing to do that with!":RETURN
 1430 PRINT"The skeleton falls in a pile of bones!"
 1440 FOR X=1 TO 5:IF V$(X)=G$(9) THEN V$(X)=""
 1450 NEXT X
 1460 AF=3:G$(10)="a pile of bones":RETURN
 1470 IF P%<>40 THEN PRINT"Don't be ridiculous!":RETURN
 1480 IF AF<3 THEN PRINT"I can't get past the skeleton":RETURN
 1490 IF AH<1 THEN PRINT"I haven't got the key!":RETURN
 1500 PRINT"I open the door ":Q$(40)="by an open door":S%(40,2)=45
 1510 RETURN
 1520 IF AG<1 THEN PRINT"I haven't got any repellent!":RETURN
 1530 IF P%<42 THEN PRINT"There's not much point in that here!":RETURN
 1540 PRINT"I spray the repellent and it moves aside":S%(42,2)=44
 1550 RETURN
```

BrainWare

TOWER OF DESPAIR

Runs on: Spectrum 48K
Made by: Games Workshop
Price: £8.95

The game comes in a package with a separate book of instructions this covers everything from how to play the game to background. This is quite comprehensive and you should have no problems if you read the book carefully. It also uses quite a new idea, in the booklet you will find the games picture. Instead of drawing the pictures on screen the game tells you to refer to a page number in the booklet. Surprisingly this works quite well.

The game loads without haste although you have to rewind after every game because the second part is loaded on the other side of the tape this has it's advantages eg. If you complete the first part then die you don't have to go right through the game again. It also has it's disadvantages eg. You have to rewind the tape every new game. The picture refering worked very well as these contain vital clues to the game. You start of in your own castle when a message comes through on the crying sphere. You then must go on a quest to go and find Malnor and destroy him. This is quite a complicated plot and gets worse as the game goes on (or so the ranger says). After leaving the castle you are immediately attacked by three demons from the sky (cowardice prevails this time). After solving that problem you have a choice North to the farmland or south to the woods. There were parts of the game where movement was totally illogical but on the whole this didn't occur.

The game played smoothly and the picture reference worked very well. The game proved to be as good an adventure as any I've seen. I thoroughly enjoyed the game. The plot and history were good and with some thought put into them.

KALAH

Runs on: Commodore 64
Made by: Talent Computer Systems
Price: £7.95

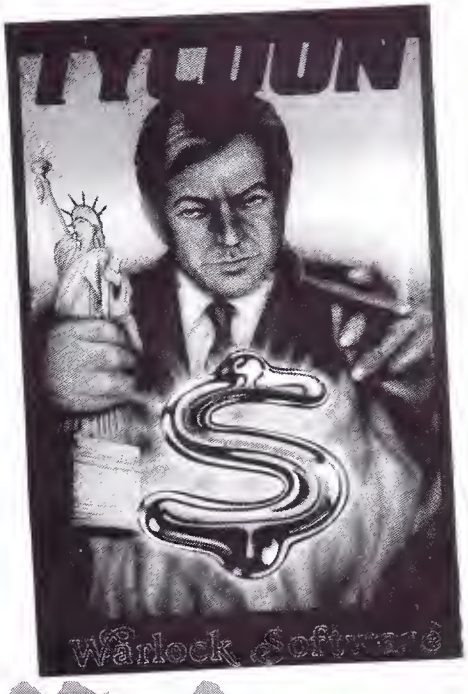
Kalah is an ancient board game that requires two players. The rules are easy to pick up, but playing the game is anything from easy. The board used is of a simple design as in the early days, it is claimed, the game was played in roughly marked pits hollowed out in the sand.

The playing area of the board therefore has the appearance of a rectangular box made up of two lines of 6 shallow pits with a larger pit at both ends called the 'kalahs'.

At the start of the game each of the 12 pits (but not the larger kalahs) is filled with the same number of pebbles or stones. Say two stones for example, in each of the 12 pits. The stones/objects in the pits are neutral as they do not belong to any particular player. Each player controls the line of pits on his side of the board, and owns the kalah on his right. Now to the game itself.

The object of the game is to collect more than half of the stones in your own kalah (that is the larger pit to the right of the board), by moving the stones in your pits in an anti-clockwise fashion around the rectangular rows of pits. There are three simple rules that govern the way in which the stones are moved.

The instructions provided are very clear and provide simple diagrams showing the typical moves that could be made. The game has a demonstration mode where a series of games are played automatically. There are 9 levels of skill which dictate the speed and the 'intelligence' of the program's moves. You can select the number of stones to have in each pit (3-6), whether you want the first move or whether music is played during the computer's move. Some of the features include a clock for each player, an information screen, lookahead, replay last move, swap sides and quit.



TYCOON

Runs on: BBC B
Made by: Warlock Software
Price: £5.95

Tycoon is best described as the computer version of monopoly. The game is for one to nine players and for this reason may prove popular, especially around Christmas time. Each player inputs his/her name at the start and then the game begins. When a particular players turn comes around a car is displayed with the players name on the side. The car stays still on the screen while the various buildings move past in the background. When the car stops the screen changes to the players pariculars (money, property etc.) and if the property the player is on has not been bought, the player is given the option. If the property is unsold the player is given the option. Other establishments on the 'board' include shops and markets. At the trade markets you can buy or sell shares, land or gold. The winner is the last person left who isn't bankrupt.

Tycoon is a good game if you want to play a 'monopoly' type game but for me these games are best left to the board.

HOUSE OF USHER

Runs on: Commodore 64
Made by: Anirog
Price: £7.95

This game can best be described as a compendium of games put together as an arcade adventure.

On entering the house, at the start of the game, the player finds himself in a reception hall, refered to as Room one, which gives access to the other nine rooms each represented by a numbered door. Behind each door is a different arcade adventure. The player controls the character's movements by using a joystick.

Each game gives the player three chances to find the secret of the House of Usher and thereby leave. To enter a room from the main reception hall the character must stand in the doorway whilst the joystick is pushed forward and the fire button pressed. It should be noted that the door used to enter a specific room cannot be used to leave as the room entered must be successfully negotiated before the player is permitted to leave and therefore enter another room.

Once all nine rooms have been entered the player is then permitted to enter the final two rooms X and Y (the final room).

This compilation of games can best be compared to that of Nightmare Park where similarily a series of simple tasks had to be completed before the player was returned to the main playing area to choose another path for yet another challenge. Though it should be said that graphics and sound effects provided by the House of Usher are far superior and provide a greater degree of entertainment.

BrainWare For Thinking Players

THE ORACLE'S CAVE

Runs on: Commodore 64
Made by: Dorcas Software
Price: £6.95

The Oracle's Cave is an exciting adventure game that uses part of the screen to display high resolution, animated graphics whilst the rest is used to display text and thereby prompt the adventurer for instructions.

In the game you are the adventurer trapped in the entrance to the Oracle's cave maze. The only exit is through the Oracles own cave on level four. There is a map that draws the caves as you enter them showing the interconnections between the ones you have just left.

To escape and win the game you must fight fierce monsters (all graphically displayed on the screen with striking realism), collect the treasure (thereby increasing the score), carry out a quest and finally if the character has enough stength, defeat the Oracle and end the adventure.

To prevent the game from going on forever the adventurer has only five 'days' in which to complete the quest. The passage of time is displayed as either morning, afternoon, evening for each of the five days.

Throughout the game the Oracle asks you questions and gives you a choice of responses, for which only a single character reply is required. All the valid responses are shown on the status line at the bottom of the screen. The characters movements through the caves is graphically shown as are the fights with monsters. The game is played in real-time so that even whilst considering a move causes the passing of time.

Scattered in the caves are various articles that help the character as well as various weapons and the inevitable treasures. But these can only be obtained if the residing monster has been overwhelmed by having a greater degree of combat strength.

The game has been well designed and the graphics animation is realistic, but I feel that the only drawback is that only five days are given to complete the adventure.

REVERSI

Runs on: Memotech MTX series
Made by: Continental Software
Price: £8.95

Reversi was invented in 1888 and is thus coming up for its centenary. It is one of those well tested simple logic board games which turn out to be not so simple when you play them. The game starts with 4 counters on the middle square of an 8 x 8 chess board. Two are black and white. You decide which colour you wish to be — black starts and is supposedly easier. The object of the game is to enclose your opponent's pieces between two of yours either diagonally, horizontally or vertically, in which case they change their colour to yours. The game progresses by alternate moves until neither player can go or until all the squares are filled. In either case the winner is the one who has the most pieces of his colour on the boad at the end of the game. If a player can't go he forfeits a turn.

On loading the program you are presented with a menu of options. Firstly, you can select instructions which are clearly stated, or go to the games proper. If you select instructions, you are able to alter the board to one of 6 colour combinations, ask for a hint on play, or quit the game. You can select from four levels of play, which get progressively more difficult. Consequently, the computer takes longer to work out its moves for each successive level. Your score is indicated by a white arrow on screen alongside the colour you choose to be for that game. If you select the highest level of play, the computer asks you to wait for its repsonse and a bar code timer clocks up at the bottom of the screen to indicate that the computer is working. The hint option is useful because it allows you to seek advice from the computer. When it has finished deliberating what you should do it puts an 'H' on screen at the position it recommends you go next.

The game is a good old favourite and well presented in this version. There's no need for sound and the graphics are simple and well ordered, with keyboard or joystick control of moves. However, you need to use skill, judgement and logic to play the game to the full. Good value for money.

LINGO

Runs on: BBC
Made by: Complete microcomputer services
Price: £9.95

This program is described as 'the game that makes fun of the English language' but of course a knowledge of the same is essential thereby restricting the 'fun' aspect to those aged eight and over.

The program is very well presented arriving in a video style box with an elegant instruction booklet which clearly guides you through the complexities of the game. No problems were encountered with loading though being of classic adventure length patience will be a great asset not only for the playing of the game.

Within the computer's memory are placed in excess of seven hundred words from which each of up to four participating players are dealt a random sample of twelve. Using simple key strokes the words are orientated such that the players make fullest use of the score values for each whilst making a sentence both meaninful and grammatically correct. These two qualifications can be challanged by the other players upon whose satisfaction a cumulative score is maintained.

Great thought has been obviously given to both the educability and playability of this game to the extent that a constant table of suitable word endings, punctuation and link words are displayed from which selection can also be made and score enhanced accordingly.

This is not the kind of programme that can be enjoyed, nor a satisfactory conclusion be reached, in five minutes and is so totally different to the 'shoot, bang, kill' type game; but spend the time and give it some thought and an extremely rewarding, often hilarious, experience can be had by all the family.

SOFTWARE REVIEWS

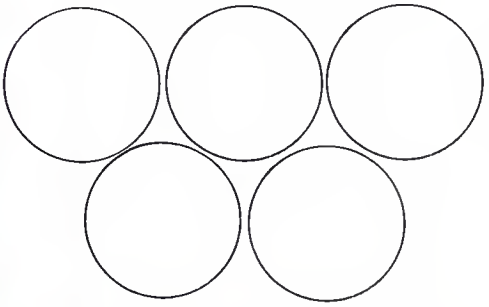
PUZZLES

Lou and Les have finally gone round the bend — or so it seems — there is a distinctly circular flavour to this month's offerings.

1 ROUND HEADS

One of Lou and Les's great contributions to society during 1985 will be several suggestions for things you can do with those brass one pound bits we all love so much.

Try this one:
Get four of them.
Can you place all four so that each touches all of the others? Simple eh ? But can you do the same with five?

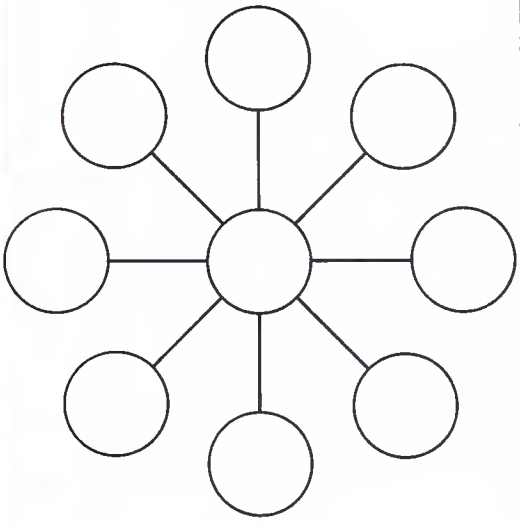


2 GOING ROUND IN CIRCLES

Do you have three seconds to spare? OK then, write down the number eleven thousand eleven hundred and eleven. (In figures please — anyone can copy.)

3 ROUND SHOULDERS

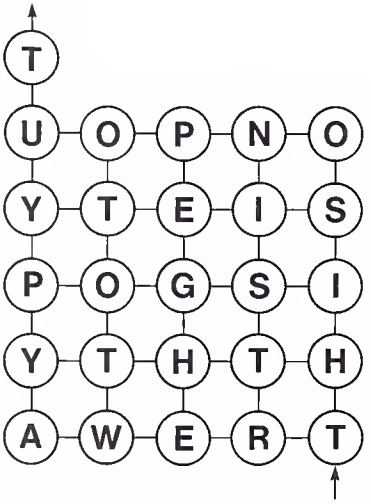
In Falkovia the bingo sessions are much favoured by the peasant classes. Each card looks like this:



and the only numbers used are 1, 2, 3, 4, 5, 6, 7, 8, and 9. As you can imagine sessions are rather short, but odd rules apply. As each number is called, you put it in any circle. To win, you have to end up with the numbers arranged so each straight line passing through 3 circles adds up to 15. Eyes down!

4 ROUND ROBIN

Start at the bottom right hand corner — and finish up at the top left. In between, you can trace a path, following the connections, and come out at the other end having spelt a message that makes sense? Do not step anywhere more than once. Do not nod off till you have escaped.



5 NIGHTS OF THE ROUND TABLE

Somebody is pushing a car past a hotel towards a jail. What is going on?

6 BREAD ROLLS

Notice the distinct signs of panic looking for circular titles. Can you think of any better — these are a mixed bag, plucked from Christmas crackers and the ravings of lunatics. . . .
Which is the odd one out?:

25 40 50 60 100 150

ABPBBGYRRRRRRRRRRRRRR

Tomato Carrot Apple Plum

1.00 5.45 6.00 6.15 7.00 9.00 10.00

7 ROUNDWORMS

629433
4374
29948677
10648209
47916
473715

Not a particularly fascinating list of numbers is it? All we want you to do is, without the use of a computer, calculator or pencil, tell us which of the above numbers is exactly divisible by 9.

OK, and which of them can be divided exactly by 11?

8 ROUNDABOUTS

What lacking here?

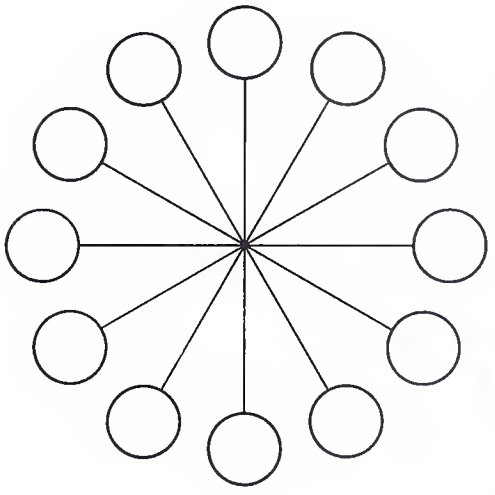
SQUZ VRGRN POLP
AENDAN ESAMEN AERS

PUZZLES

9 ROUND THE CLOCK

Students of Industrial Relations seeking odd work practices need look no further, of course, than Falkovia. Traditions and rituals, idleness and ignorance, low pay, long hours and of course torture are all part of the normal round.

Membership of a trades union was punishable the usual lingering death for first offenders, but this never worried the Clark brothers — they were self employed, running a pet shop tht stocked the usual Falkovian furry friends — piranha, rabid dogs, scorpions and the like. The three brothers, Cyril, Howie and Keith had just one rule between them — looking at the clock below, they had to divide the hours up so that no one ever worked when two hours could be joined by one straight line. Was it worth their effort? Did they ever manage it?



10 HAPPY ENDINGS

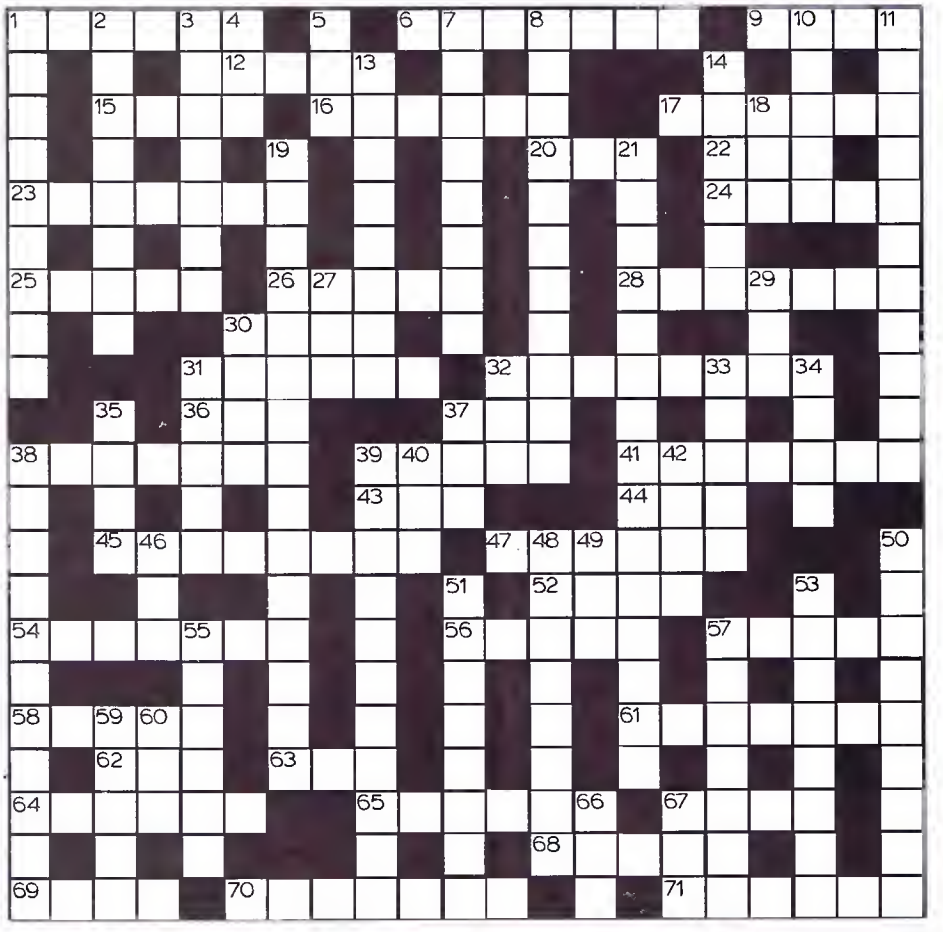
All the "coloured" clues are of a kind.

Clues Down

1 A green one (9)
2 See 14
3 A black one (7)
4 Sherry served during Prohibition? (3)
5 Animal featured in the Classics (3)
7 A green one (8)
8 A red one (4,7)
10 A thousand in one toilet? What a house! (5)
11 A dark blue one (11)
13 A silver one (8)
14,2 A red one, and a green one (6,8)
18 Man who almost makes a loan (3)
19 A dark blue one (8,7)
21 A brown one (7,8)
27 Ever been. . . owned? (3)
29 Container for Greek wages? (3)
30 A fishy kind of finish (4)
31 Short science using 28 (5)
32 The infection passed quickly, I hear (3)
33 Gold turns to gin? (5)
34 Distinguished colour? (4)
35,47 A black one (4,6)
37 Positive feature of 31 (3)
38 A light blue one (with half of 19) (11)
39,55 A brown one (9,3,6)
40 Pheasant's nest found back in East Riding (3)
42 American exclaims at S-bend (4)
46 Orwell came up for it (3)
48 A purple one (8)
49 Quick way to 45 (3)
50 A green one (9)
51 A purple and white one (3,5)
53 A purple one and a blue one (8)
55 See 38
57 A light blue one (7)
59 A red one (7)
60 CB at sea? (3)
66 Not strictly speaking — missing something (3)
67 Haggard character — who must be obeyed (3)

Clues Across

1 Spider-footed? (6)
6 Pains that get bigger? (7)
9 Record drive? (4)
12 Clothing adopted by Southern Reds (5)
15 Unrestrained scene in Porgy and Bess (4)
16 Bonebreakers — where you find 31ac, 1dn etc (6)
17 Bile in charge of French (6)
20 Pull towards the west (3)
22 The French have nothing for him (3)
23 E.g, adult unwinds at this circus (7)
24 Snookered? (2,3)
25 Curtains used for Teddy Boy's suit? (5)
26 Misdirection results in something prickly (5)
28 Forms characters (7)
30 Richard reduced to servitude (4)
31 A black one (6)
32 Playing with affections (8)
36 Shakespeare made much of it (3)
37 Girl hiding in California (3)
38 What wit! — confused the saddler (7)
39 Finish at the top (3,2)
41 Track suited aides-memoires (7)
43 Top of the eye (3)
44 The Italian in Bela Lugosi? (3)
45 49 — the long way (8)
47 see 35
52 Authoritative spice (4)
54 Trim 100 from a pop group (7)
56 Fair square occurence (5)
57 Shapely? (5)
58 Makes fast Heath's boat? (5)
61 No micro has this letter! (7)
62 It's a Napierian digit, you fool! (3)
63 Permit rental (3)
64 Leg got tangled in duffle coat fastening (6)
65 Be spoken, without restraint (6)
67,68 man turns to dust.
68 Can't quite stomach one so aggresively virile (5)
69 All this dulls Jack (4)
70 Ole! 67 makes the most noise (7)
71 Last organ to love (6)



The story so far...

While exploring an ancient castle somewhere in North Africa I found some old manuscripts and diaries telling of ancient times when wars were waged constantly and fear held the heart of every person. They tell of a vast network of rooms and passage ways dug into the rock beneath the castle and, used by the people of the land for refuge in time of war and, as a last point of defence for the army who rules the castle. The treasury in this citadel was full of gold coins and jewels. I have decided to find the citadel, and the treasure if it still exists. However, I need your help and thus with my life in your hands I will begin my quest from the main hall. The rest is up to you. . . . .

The Game

This program is a classic style text adventure for the 16K expanded VIC-20. You take the role of the adventurers character and guide him/her through various problems in order to survive and escape. Control is by standard two-word commands eg BREAK BOTTLE or DRINK SOUP, except in the case of directions which need only one letter ie N,S,E or W. No more than five objects can be carried at one time and INVENTORY will give a list of what is being carried. LOOK will give description of where you are located.

It is hard to die in this adventure so don't be afraid to try actions. If you wish to finish a game and continue later, type QUIT and follow instructions, or simply SAVE GAME. This will save your position on cassette when you want to continue type LOAD GAME and follow instructions.

There are 40 locations or places to explore and 22 verbs to use. Here are some of them:

GO, GET, LOOK, INVENTORY, LOAD, SAVE, OPEN, CLOSE, QUIT, DROP, HELP, DIG, EXAMINE.

There are more and you will have to find them yourself. You don't want it too easy do you?

Hints . . . . .

Remember everything has a use.
You need light in the dark.
Discard used objects.
Droped objects which are fragile might break.
Make a map of the adventure.
BE LOGICAL.

RUNdown

Lines	Action
2-5	set up some variables.
10	set up instructions and data.
15	set PD$.
200-250	check for movement and identify verb used.
270	GO routine.
300	GET routine.
390	check and break input into verb and noun.
500-1908	other verb routines.
2000	more variables and data.
2800-2826	SAVE routine.
2900-2926	LOAD routine.
5000	check movement and set up display.
5150-5155	'fall through floor' routine.
5175-5195	check and alter objects after action.
7000-7140	check for too long input.
8000	opening screen display.
10000	opening instructions.
12000-12004	press 'space' routine.

Conversion Clues

The adventure is written in standard BASIC. However, POKE 36879,25 which sets border and screen colour to white, has to be changed.

The opening screen display can easily be adapted for screens with a larger number of columns.

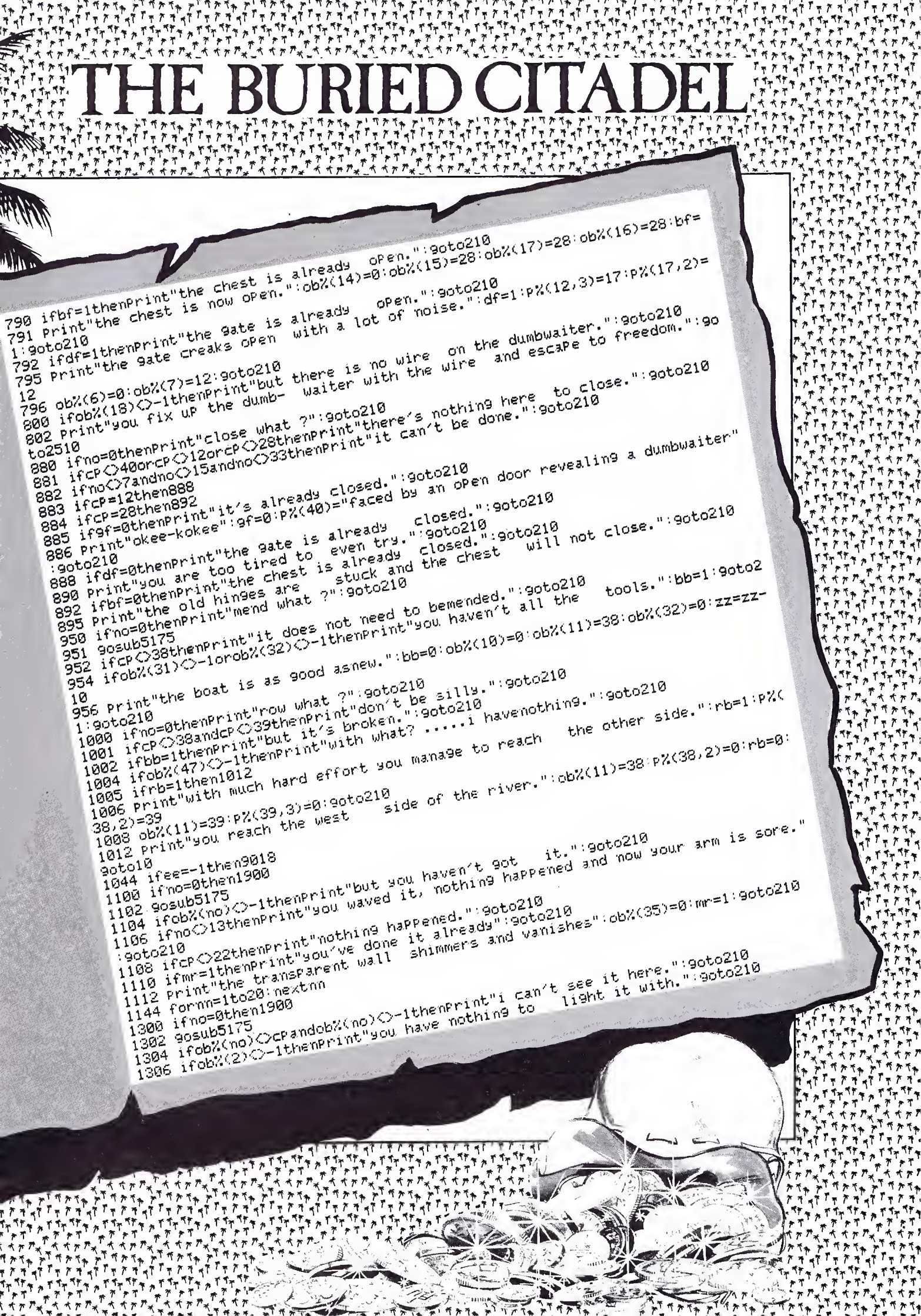
THE BURIED CITADEL

```
2 bb=1:mr=0:gf=0:bf=0:df=0:rb=0
5 bd$=chr$(13)
7 gosub8000
10 gosub10000:gosub2000:cp=1
15 pd$="it's pitch dark down  here....move and you  will fall into a pit"
20 im$="you can't go that way"
200 gosub5000
210 gosub390
225 ifvb>9andno$=""thenPrint"you need a direct    object.":goto210
227 ifno$<>""andvb=1andno=0thenPrint"that does not compute ...ha...ha...ha...":g
oto210
240 onvbgoto270,300,200,500,650,1890,690,780,880,1100
250 onvb-10goto1300,1500,1850,1900,1400,1000,950,540,2800,2900
260 onvb-20goto600,560
270 ifno$<>""andno=0thenPrint"i don't get you":goto210
272 ifno>28orno<21thenPrint"i don't understand":goto210
274 ifno>24thenno=no-4
276 no=no-21
277 ifcp=6 then5150
278 ifno&ndpd  thenPrint"you've fallen into a  pit.":goto612
288 ifp%(cp,no)=0thenPrint"you can't go that way":goto210
289 cp=p%(cp,no):goto200
300 ifno=0then1900
302 gosub5175
304 ifob%(no)=-1thenPrint"i can't see it here.":goto210
306 ifob%(no)<>cpthenPrint"no way....":goto210
308 ifno=6orno=7orno=10orno=11thenPrint"i have a sore back.":goto210
310 ifno=14orno=15orno=29orno=30orno=35orno=36thenPrint"impossible....":goto210
312 ifno=33orno=34orno=40orno=41orno=46thenPrint"why bother, it's of nouse.":got
o210
314 ifno=37orno=38orno=44orno=45thenPrint"i'm afraid that's out of the question.
":goto21
316 ifno=42orno=43orno=44orno=45thenPrint"i'm afraid that's out of the question.
":goto21
322 ifzz>5thenPrint"you're carrying too   much.":goto210
324 ifmr=0andno=8thenPrint"you can't get them yet":goto210
325 ifmr=0andno=9thenPrint"you can't get them yet":goto210
330 zz=zz+1:Print"okee-dokee.":ob%(no)=-1:goto10
390 Print:Print"what now ?";:gosub7000 :Print:
```

```
392 no$="":vb$="":vb=0:no=0
394 lc=len(cm$):fori=1tolc:ifmid$(cm$,i,1)<>" "thenvb$=vb$+mid$(cm$,i,1):next
396 v1$=vb$:vb$=left$(v1$,3):fori=1tonv:ifvb$(i)=vb$thenvb=i:goto402
398 next
400 vb=1:no$=vb$:goto406
402 iflen(v1$)+1>=len(cm$)thenno=0:return
404 no$=right$(cm$,len(cm$)-1-len(v1$))
406 n1$=no$:no$=left$(no$,3):fori=1tonm:ifno$=no$(i)then412
408 nexti
410 no=0:return
412 no=i:return
500 Print"you are carrying :-":gs=0:zz=0
502 fori=1tolo:ifob%(i)=-1thenprintob$(i):gs=gs+1:zz=zz+1
504 nexti
506 ifgs=0thenPrint"nothing."
508 goto210
540 ifno=0thenPrint"dig what ?":goto210
541 gosub5175
542 ifcp<>36thenPrint"it is solid rock and  you made no impression":goto210
544 ifob%(19)<>-1thenPrint"you have nothing to  dig with.":goto210
546 Print"you manage to make a  tunnel through the  rock and rubble."
548 ob%(37)=0:ob%(38)=36:p%(36,2)=38:goto210
560 ifno=0then1900
562 gosub5175
564 ifob%(no)<>-1thenPrint"you haven't got it.":goto210
566 ifno=9thenPrint"smash..your jewels arenow worthless.":ob%(9)=0:ob%(34)=cp:zz
=zz-1:goto210
568 ifno=12thenPrint"smash-i hope you don'tneed it again.":ob%(12)=0:ob%(43)=cp:
zz=zz-1:goto210
570 ifno=13thenPrint"smash...it's of no usenow.":ob%(13)=0:ob%(44)=cp:zz=zz-1:go
to210
572 ifno=39thenob%(no)=0:ob%(1)=cp:zz=zz-1:Print"okee....fine":goto210
574 Print"okee....fine":ob%(no)=cp:zz=zz-1:goto210
600 ifno=0thenPrint"say what ?":goto210
602 ifcp<>20thenPrint"nothing happened.":goto210
604 ifno=46thenPrint"the door vanishes in acloud of smoke"
606 p%(20,0)=23:ob%(33)=0:ob%(45)=0:ob%(34)=20:goto210
612 Print"you're dead...."
614 Print"do you want to play  again (y-yes or n-no)"
616 getPa$:ifPa$="y"thenrun
618 ifPa$="n"thenPrint"i hope you had a greattime.  bye  now.":end
620 goto616
650 Print"sorry,i cannot let youcheat. be logical and try sensible actions."
652 Print"if one word does not  work try another.":goto210
690 ifno=0thenPrint"cross what ?":goto210
692 if(cp<>17)thenPrint"there's nothing here  to cross.":goto210
694 ifno<>36orno<>40thenprint"wow.....you have some imagination.":goto210
696 Print"hint: try a direction":goto210
780 ifno=0thenPrint"open what ?":goto210
782 ifcp<>28andcp<>12andcp<>40thenPrint"there's nothing here  that will open.":g
oto210
784 ifcp=28then790
785 ifcp<>40then792
786 ifgf=1thenPrint"but it is open.":goto210
787 ifob%(16)<>-1thenPrint"but you haven't got a key.":goto210
788 Print"the door swings open.":gf=1:goto210
789 goto800
```

THE BURIED CITADEL

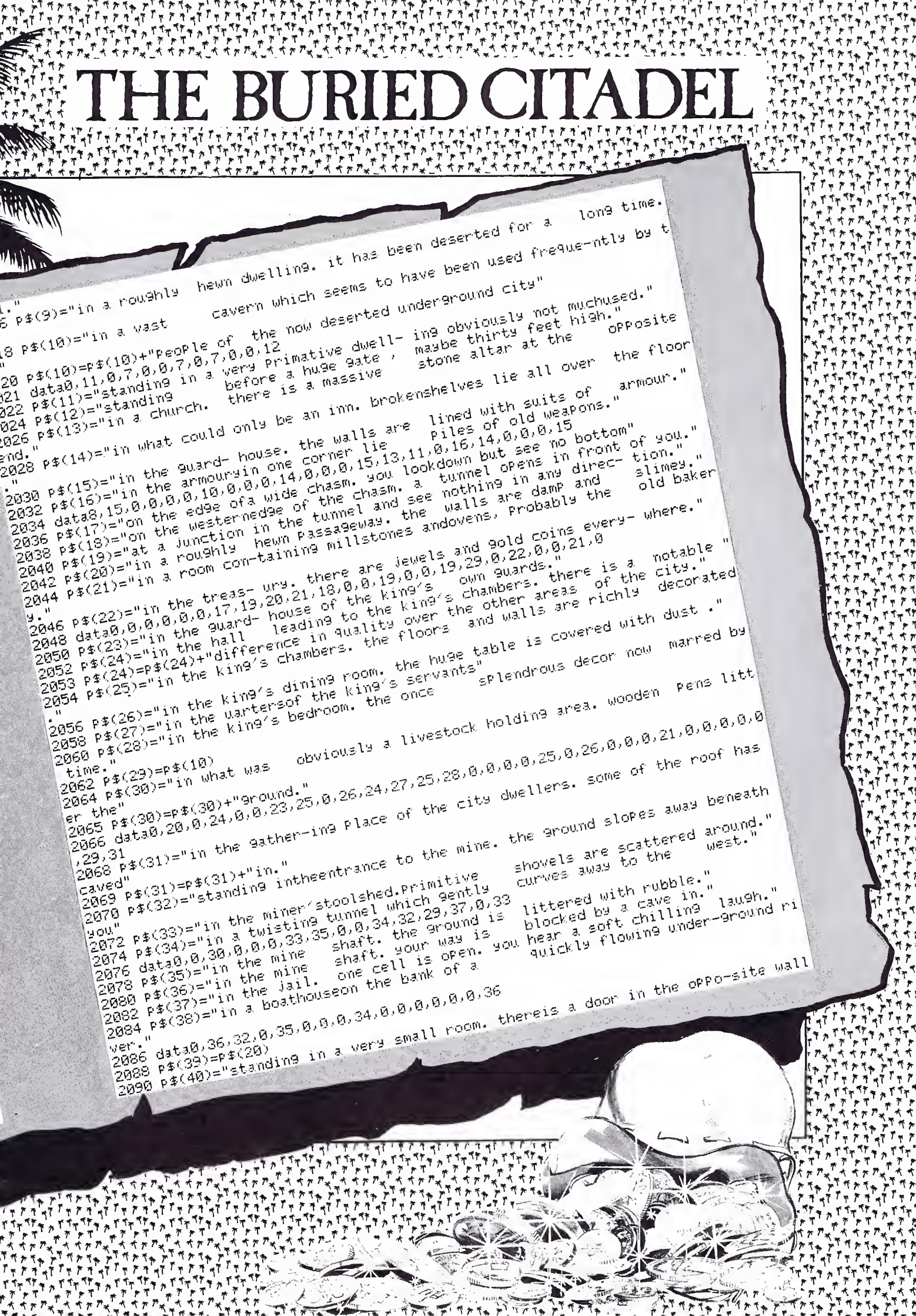
```
790 ifbf=1thenPrint"the chest is already  open.":goto210
791 Print"the chest is now open.":ob%(14)=0:ob%(15)=28:ob%(17)=28:ob%(16)=28:bf=
1:goto210
792 ifdf=1thenPrint"the gate is already  open.":goto210
795 Print"the gate creaks open  with a lot of noise.":df=1:p%(12,3)=17:p%(17,2)=
12
796 ob%(6)=0:ob%(7)=12:goto210
800 ifob%(18)<>-1thenPrint"but there is no wire  on the dumbwaiter.":goto210
802 Print"you fix up the dumb-  waiter with the wire  and escape to freedom.":go
to2510
880 ifno=0thenPrint"close what ?":goto210
881 ifcp<>40orcp<>12orcp<>28thenPrint"there's nothing here  to close.":goto210
882 ifno<>7andno<>15andno<>33thenPrint"it can't be done.":goto210
883 ifcp=12then888
884 ifcp=28then892
885 ifgf=0thenPrint"it's already closed.":goto210
886 Print"okee-kokee":gf=0:p%(40)="faced by an open door revealing a dumbwaiter"
:goto210
888 ifdf=0thenPrint"the gate is already  closed.":goto210
890 Print"you are too tired to  even try.":goto210
892 ifbf=0thenPrint"the chest is already  closed.":goto210
895 Print"the old hinges are  stuck and the chest  will not close.":goto210
950 ifno=0thenPrint"mend what ?":goto210
951 gosub5175
952 ifcp<>38thenPrint"it does not need to bemended.":goto210
954 ifob%(31)<>-1orob%(32)<>-1thenPrint"you haven't all the  tools.":bb=1:goto2
10
956 Print"the boat is as good asnew.":bb=0:ob%(10)=0:ob%(11)=38:ob%(32)=0:zz=zz-
1:goto210
1000 ifno=0thenPrint"now what ?":goto210
1001 ifcp<>38andcp<>39thenPrint"don't be silly.":goto210
1002 ifbb=1thenPrint"but it's broken.":goto210
1004 ifob%(47)<>-1thenPrint"with what? .....i havenothing.":goto210
1005 ifrb=1then1012
1006 Print"with much hard effort you manage to reach  the other side.":rb=1:p%(
38,2)=39
1008 ob%(11)=39:p%(39,3)=0:goto210
1012 Print"you reach the west  side of the river.":ob%(11)=38:p%(38,2)=0:rb=0:
goto10
1044 ifee=-1then9018
1100 ifno=0then1900
1102 gosub5175
1104 ifob%(no)<>-1thenPrint"but you haven't got  it.":goto210
1106 ifno<>13thenPrint"you waved it, nothing happened and now your arm is sore."
:goto210
1108 ifcp<>22thenPrint"nothing happened.":goto210
1110 ifmr=1thenPrint"you've done it already":goto210
1112 Print"the transparent wall  shimmers and vanishes":ob%(35)=0:mr=1:goto210
1144 fornn=1to20:nextnn
1300 ifno=0then1900
1302 gosub5175
1304 ifob%(no)<>cpandob%(no)<>-1thenPrint"i can't see it here.":goto210
1306 ifob%(2)<>-1thenPrint"you have nothing to  light it with.":goto210
```



```
1308 ifno<>1thenPrint"come off it.":goto210
1310 ifob%(39)=-1thenPrint"it's already lit.":goto210
1314 Print"o.k.":ob%(39)=-1:ob%(1)=0:Pd=0:goto210
1400 ifno=0thenPrint"shoot what ?":goto210
1402 gosub5175
1404 ifcp<>29thenPrint"there's nothing here  to shoot.":goto210
1406 ifob%(17)<>-1thenPrint"you have no gun.":goto210
1408 ifob%(17)=-1andob%(20)<>-1thenPrint"the gun is empty.":goto210
1410 Print"you got him right    between the eyes.":ob%(20)=0:ob%(29)=0
1411 ob%(30)=29:P%(29,1)=34:P%(29,3)=30:goto210
1500 ifno=0thenPrint"make what ?":goto210
1501 gosub5175
1502 ifno<>36thenPrint"please try to make    some sense":goto210
1503 ifcp<>17thenPrint"you don't need a      bridge here.":goto210
1504 ifob%(3)<>-1orob%(4)<>-1thenPrint"you'll need something else.":goto210
1506 Print"you now have a rope   bridge and you place   it across the chasm."
1508 ob%(36)=17:ob%(3)=0:ob%(4)=0:P%(17,3)=18:zz=zz-2:goto210
1850 ifno=0then1900
1851 gosub5175
1852 ifno<>5andno<>45thenPrint"there's nothing on it to read.":goto210
1854 ifno=5then1870
1856 ifcp<>20thenPrint"it's not here.":goto210
1858 Print"it says : 'i hope you are having fun.'":goto210
1870 ifob%(5)<>-1thenPrint"you're not holding it":goto210
1872 ifob%(12)<>-1thenPrint"the writing is too    small.":goto210
1874 Print"the parchment reads:- 'wave goodbye to all    to come,'
1875 Print" if this action is not done,                   be a fruit-cake at    th
e door,"
1876 Print" i cannot tell you any more.'":goto210
1890 Print"that's ok by me."
1892 Print"do you want to save   your amazing progress on tape  (y-yes  or  n-n
o) ?"
1894 getpt$:ifpt$="y"then2800
1896 ifpt$="n"then614
1898 goto1892
1900 ifno=0thenPrint"what's a";n1$;"?":goto210
1901 gosub5175
1903 ifno=40 orno=37thenPrint"there?s nothing inter-esting here.":goto210
1904 ifob%(no)<>-1andob%(no)<>cpthenPrint"i can't see it here.":goto210
1905 ifno=17orno=5orno=13orno=18thenPrint"it can be of help.":goto210
1906 ifno=5thenPrint"the word 'end' is          written here.":goto210
1907 ifno=16thenPrint"there's something        inscribed on it.":goto210
1908 Print"it's just":Printob$(no):goto210
2000 nv=22:nn=47:P=40:lo=47:dimP$(P),P%(P,3),ob$(lo),ob%(lo),vb$(nv),no$(nn)
2001 P$(1)="in the main    hall of a desolate ,  ancient    castle.":data3,5,0,2
2002 P$(2)="standing in a much ruined dining    room.":data0,0,1,0
2004 P$(3)="in what        appears to have been atorture chamber."
2006 P$(4)="in an old      music room which stillholds some ancient    instrumen
s."
2008 P$(5)="descending     into a dimly lit      cellar with crumbling stone fl
r."
2010 P$(6)="in a tiny dullstorageroom with a badfloor."
2012 P$(7)="in a wide rockwalledPassageway.aboveyou see the hole you  fell th
gh."
2013 data0,1,0,4,0,0,3,0,1,6,0,0,5,0,0,0,0,10,8,9
2014 P$(8)="in a large     store. all food is    rotted and there is a terrib
```

THE BURIED CITADEL

```
l."
6 p$(9)="in a roughly  hewn dwelling. it has been deserted for a  long time.
"
8 p$(10)="in a vast      cavern which seems to have been used freque-ntly by t
20 p$(10)=p$(10)+"people of  the now deserted underground city"
021 data0,11,0,7,0,0,7,0,7,0,0,12
022 p$(11)="standing in a very primative dwell- ing obviously not muchused."
024 p$(12)="standing      maybe thirty feet high."
2026 p$(13)="in a church.  before a huge gate ,  there is a massive    stone altar at the    opposite
end."
2028 p$(14)="in what could only be an inn. brokenshelves lie all over  the floor
."
2030 p$(15)="in the guard- house. the walls are  lined with suits of   armour."
2032 p$(16)="in the armouryin one corner lie     piles of old weapons."
2034 data8,15,0,0,0,0,10,0,0,0,14,0,0,0,15,13,11,0,16,14,0,0,0,15
2036 p$(17)="on the edge ofa wide chasm. you lookdown but see no bottom"
2038 p$(18)="on the westernedge of the chasm. a  tunnel opens in front of you."
2040 p$(19)="at a junction in the tunnel and see nothing in any direc- tion."
2042 p$(20)="in a roughly  hewn passageway. the  walls are damp and     slimey."
2044 p$(21)="in a room con-taining millstones andovens, probably the    old baker
y."
2046 p$(22)="in the treas- ury. there are jewels and gold coins every- where."
2048 data0,0,0,0,0,0,0,17,19,20,21,18,0,0,19,0,0,19,29,0,22,0,0,21,0
2050 p$(23)="in the guard- house of the king's  own guards."
2052 p$(24)="in the hall   leading to the king's chambers. there is a  notable "
2053 p$(24)=p$(24)+"difference in quality over the other areas  of the city."
2054 p$(25)="in the king's chambers. the floors  and walls are richly  decorated
."
2056 p$(26)="in the king's dining room. the huge table is cowered with dust ."
2058 p$(27)="in the wartersof the king's servants"
2060 p$(28)="in the king's bedroom. the once       splendrous decor now  marred by
 time."
2062 p$(29)=p$(10)
2064 p$(30)="in what was   obviously a livestock holding area. wooden  pens litt
er the"
2065 p$(30)=p$(30)+"ground."
2066 data0,20,0,24,0,0,23,25,0,26,24,27,25,28,0,0,0,0,25,0,26,0,0,0,21,0,0,0,0,0
,29,31
2068 p$(31)="in the gather-ing place of the city dwellers. some of the roof has
caved"
2069 p$(31)=p$(31)+"in."
2070 p$(32)="standing intheentrance to the mine. the ground slopes away beneath
you"
2072 p$(33)="in the miner'stoolshed.Primitive    showels are scattered around."
2074 p$(34)="in a twisting tunnel which gently    curves away to the     west."
2076 data0,0,30,0,0,0,33,35,0,0,34,32,29,37,0,33
2078 p$(35)="in the mine    littered with rubble."
2080 p$(36)="in the mine    shaft. the ground is    blocked by a cave in."
2082 p$(37)="in the jail.  shaft. your way is    hear a soft chilling  laugh."
2084 p$(38)="in a boathouseon the bank of a      quickly flowing under-ground ri
ver."
2086 data0,36,32,0,35,0,0,0,34,0,0,0,0,0,0,36
2088 p$(39)=p$(20)
2090 p$(40)="standing in a very small room. thereis a door in the oppo-site wall
```



```
."
2092 data0,0,40,0,0,0,0,0,39
2200 fori=1top:forj=0to3:readpX(i,j):nextj,i
2210 data4,2,3,9,13,12,0,22,22,38,0,6,18,28,0,0,0,36,31,27
2212 dataa torch,some matches,some coiled rope,some wooden planks,an ancient par
chment
2214 dataa closed gate,an open gate,some gold coins,some jewels,a broken boat
2215 dataa fixed boat,a magnifying glass,a pendant,a closed chest,an open chest,
a key
2216 dataa rifle,some coiled wire,a shovel,some bullets
2222 fori=1to20:readobX(i):nexti:fori=1to20:readob$(i):nexti
2224 data29,0,37,33,20,0,22,0,36,0,0,7,17,0,0,0,20,0,13
2226 dataa giant rodent,some dead meat,a crude saw,some pieces of wood
2228 dataa stone door with inscription,a clear passage,a magic wall,a bridge
2230 dataa pile of rubble,a tunnel in the rubble,a flaming torch,an opening abov
e
2232 dataa wide chasm,some pieces of jewels,a broken glass,a broken pendant
2234 dataan inscription,fruit cake,some oars
2238 fori=29tolo:readobX(i):nexti
2240 fori=29tolo:readob$(i):nexti
2250 datator,mat,rop,pla,par,gat,gat,coi,jew,boa,boa,gla,pen,che,che,key
2252 datarif,wir,sho,bul,nor,sou,eas,wes,n,s,e,w,rod,mea,saw,woo,doo,pas,wal,bri
,rub
2254 datatun,tor,ope,cha,pie,bro,pen,ins,fru,oar
2256 datago,get,loo,inv,hel,qui,cro,ope,clo,waw,lig,mak,rea,exa
2258 datasho,row,mem,dig,saw,loa,say,dro
2262 fori=1tonn:readno$(i):next
2264 fori=1tonv:readvb$(i):next
2266 datanorth,south,east,west
2268 fori=0to3:readdd$(i):next
2270 return
2510 Print"congratulations!!!!   you have finished the adventure."
2512 Print"the dumbwaiter will   bring you back to the castle.":end
2800 Print"■insert blank and press 'space' to save."
2802 getps$:ifps$<>" "then2802
2804 Print"alright."
2806 open1,1,1,"citadel data"
2807 fori=1tolo:Print#1,obX(i);bd$;
2808 nexti
2809 Print#1,cp;bd$;rb;bd$;gf;bd$;pd;bd$;zz;bd$;bf;bd$;df;bd$;mr;bd$;bb;bd$;
2810 Print#1,P$(40);bd$;
2812 Print#1,PX(12,3);bd$;PX(20,0);bd$;PX(36,2);bd$;PX(29,1);bd$;
2814 Print#1,PX(29,3);bd$;PX(38,2);bd$;PX(39,3);bd$;PX(17,3);bd$;
2824 close1
2826 goto614
2900 Print"■insert cassette and   press 'space' to      load."
2902 getps$:ifps$<>" "then2902
2904 Print"alright."
2906 open1,1,0,"citadel data"
2907 fori=1tolo:inPut#1,obX(i)
2908 nexti
2910 inPut#1,bb,zz,cp,rb,gf,df,bf,mr,pd
2912 inPut#1,P$(40)
2914 inPut#1,PX(39,3),PX(38,2),PX(29,1)
2916 inPut#1,PX(29,3),PX(20,0),PX(36,2)
2918 inPut#1,PX(17,3),PX(12,3)
2924 close1
2926 goto200
5000 Print"■"
5001 ifobX(39)<>-1and(cp)6andcp(40)
     thenPrintPd$:Pd=1:return
5002 Print"you are "p$(cp):Pd=0    "
5004 vb$="■ou can see :-
```

THE BURIED CITADEL

```
ori=1tolo:ifob%(i)=cpthenPrintvb$;ob$(i):vb$=""
                                    ":fori=0to3:ifp%(cp,i)<>0thenPrintdd$(i);" ";
exti
l=0
rint"you can go :-
nexti
ifcp<>22thenreturn
ifmr=0thenPrint"your way is blocked bya magic transparent  wall.":return
return
 Print"oh no, you've fallen  through the floor and can't get back up. you";
 Print"will have to explore  and find another way  out."
 ifob%(39)=-1thenpd=0
4 cp=7
5 goto210
5 ifno=1andob%(39)=-1thenno=31:return
7 ifno=14andbf=1thenno=15:return
79 ifno=10andbb=0thenno=  7:return
81 ifno=6 anddf=1thenno=  5:return
85 ifno=7 anddf=0thenno=  6:return
195 return

7000 cm$="":
7002 Print"";
7005 getz$:ifz$=""then7005
7010 z=asc(z$):ifz>95then7005
7080 zl=len(cm$):ifzl>27then7110
7100 ifz>31thencm$=cm$+z$:Printz$;:goto7002
7110 ifz=13andzlthenPrint" ":return
7120 ifz=20andzlthencm$=left$(cm$,zl-1):Printz$;
7140 goto7002

000 Print"
002 Print"
004 Print"
006 Print"
008 Print"
010 Print"
012 Print"
014 Print"
016 Print"
018 Print"
020 Print"
022 Print"
024 Print"
026 Print"
028 Print"by sean conway"
030 Print"
032 fora=1to5000:nexta
034 return
0000 Poke36879,25:Print"welcome to..... the buried citadel"
0002 Print"here you are, staying in a spooky old castleand being adventurous"
0004 Print"you begin to explore. you learn from some  old manuscripts of a "
0006 Print"city beneath the          castle used for shel- ter in time of war."
0008 gosub12000
0010 Print"now you are curious.  you decide to begin  your journey from the"
0012 Print"main hall of the       castle. what awaits  you is in the future"
0014 Print"and will be your own   doing. you have no  help but your"
0016 Print"instinct and intuition good.....luck"
0020 gosub12000
0022 Print"get ready to begin.."
0024 return
2000 Print:Print"  press 'space'  "
2002 get sp$:ifsp$<>" "then12002
2004 return
```

HOU · PAR
01 : 00
1
15:09

RUNS ON SPECTRUM

Rollergoal, which runs in Extended BASIC on the TI-99/4a, is a one-player game loosely based on the film Rollerball.

Your player must catch the ball fired from the gun and manoeuvre his way past opposing players until he is in a position to shoot for the goal, at bottom left of the screen. The opposing players are harmless until you player catches the ball, whereupon they turn nasty and do their best to wipe him out, by the simple expedient of flattening him.

As the game progresses they increase in speed and numbers until manoeuvering your player between them becomes a very dangerous business.

Although your player can only move horizontally and vertically under key control he can move diagonally by simply bouncing off the upper and lower walls.

The opposition score a point each time they wipe out your player and you score a point for each successful goal shot. The first side to score ten points is the winner.

RUNdown

Lines	Action
180	Clear and colour screen, set sprite magnification.
190-220	Sub-program CALLs, set variables.
230-260	Set player in motion and check coincidences of sprites.
270-360	Move player to catch ball.
370-490	Move player and shoot for goal.
500-630	End of game (win or lose).
640-750	Sub-program to set graphics and colours.
760-900	Sub-program to display optional instructions.
910-1090	Sub-program to set up screen and set sprites in motion.
1100-1130	Sub-program to catch ball.
1140-1190	Sub-program to wipe out player.
1200-1310	Sub-program to throw ball and check for goal scored.

Variables Used

SP	Speed of opposing player.
CT	Level of game.
SCH	Points for player.
SCA	Points against player.

Conversion Clues

TI Extended BASIC is fairly individual and does not lend itself readily for conversion to other dialects of BASIC as sprite graphics and user-written sub-programs are used.

The handling of sprite graphics is quite straightforward and the purpose of the various statements can be deduced from the listing. Here are some details of sprite sub-programs used in the program.

CALL SPRITE (Sprite number, character code, colour code, start position (row and column), vector velocities)

CALL MOTION (Sprite number, row velocity, column velocity)

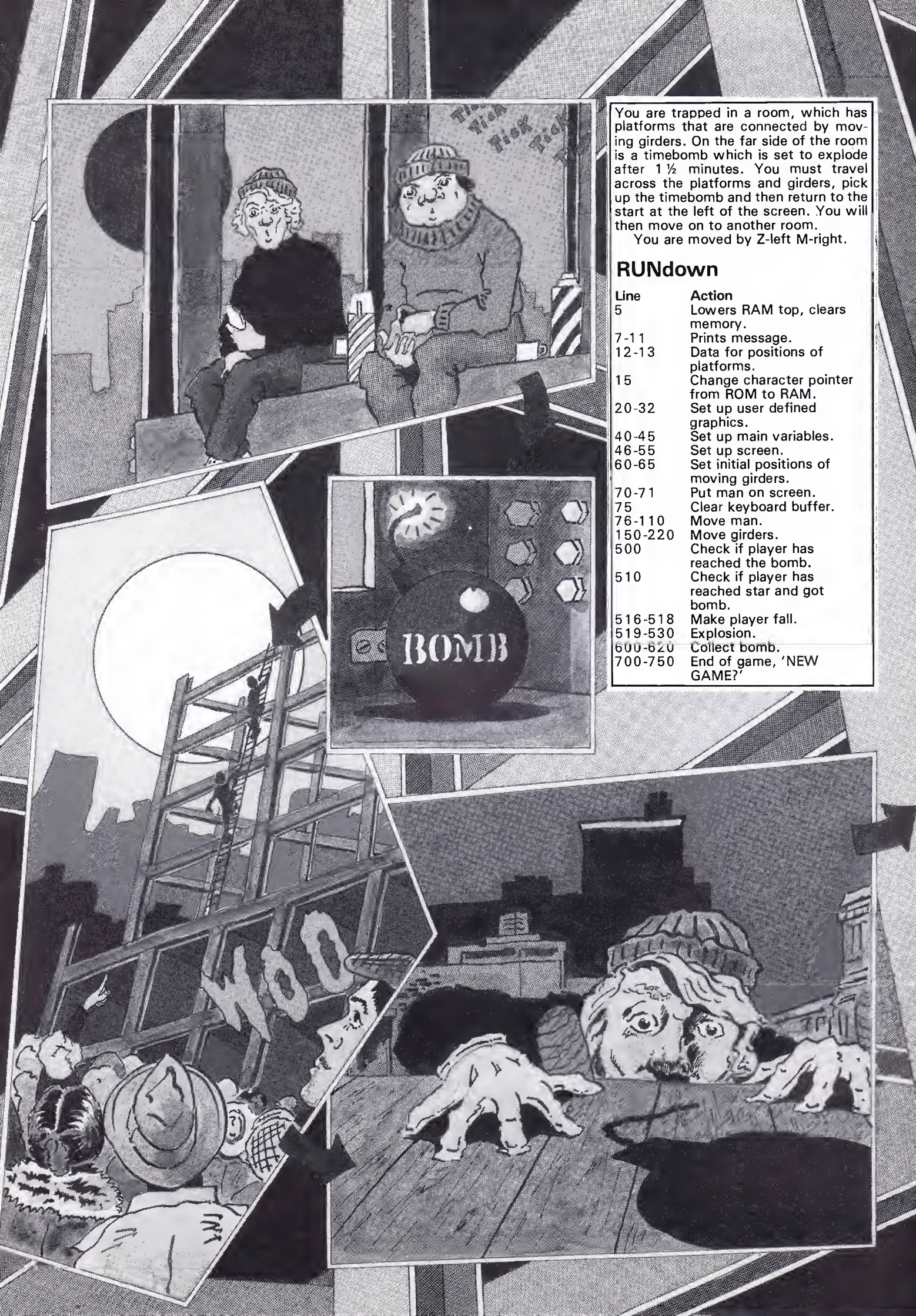
CALL COINC (ALL, H) Detects a collision between any two sprites and sets the variable (H) to −1.

The user-written sub-programs, prefixed by CALL, could be replaced by GOSUBs, using RETURN instead of SUBEXIT or SUBEND to jump back to the main program.

```
100 REM     *ROLLERGOAL*
110 REM
120 REM    GRAHAM BALDWIN
130 REM
140 REM         1984
150 REM
160 REM EXTENDED BASIC REQUIRED
170 REM
180 CALL CLEAR :: CALL SCREEN(12):: CALL
 MAGNIFY(3):: RANDOMIZE
190 CALL GRAPHICS
200 CALL INSTRUCTIONS
210 SP=-6 :: SCA,SCH,CT=0
220 CALL SETUP(SP,CT,SCH,SCA)
230 FOR I=30 TO 0 STEP -1 :: CALL SOUND(
-100,110,I,111,I,-5,I):: NEXT I
240 CALL SPRITE(#10,136,2,12,48,3,18)
250 CALL SOUND(-4250,-5,15)
260 CALL COINC(#10,#12,5,H):: IF H THEN
CALL CATCH ELSE 270 :: GOTO 370
270 CALL KEY(3,K,S):: IF S=0 THEN 320
280 IF K=68 THEN CALL MOTION(#20,0,12)::
 GOTO 320
290 IF K=83 THEN CALL MOTION(#20,0,-12):
: GOTO 320
300 IF K=69 THEN CALL MOTION(#20,-12,0):
: GOTO 320
310 IF K=88 THEN CALL MOTION(#20,12,0)
320 CALL COINC(#10,#20,9,H):: IF H THEN
CALL CATCH ELSE 340
330 GOTO 370
340 CALL POSITION(#20,Y,X):: IF Y<20 THE
N CALL MOTION(#20,12,-12)
350 IF Y>160 THEN CALL MOTION(#20,-12,-1
2)
360 GOTO 260
370 CALL COINC(ALL,H):: IF H THEN CALL C
RASH(SCA)ELSE 390
380 IF SCA>9 THEN 510 ELSE 220
390 CALL KEY(3,K,S):: IF S=0 THEN 460
400 IF K=68 THEN CALL MOTION(#20,0,12)::
 GOTO 460
410 IF K=83 THEN CALL MOTION(#20,0,-12):
: GOTO 460
420 IF K=69 THEN CALL MOTION(#20,-12,0):
: GOTO 460
430 IF K=88 THEN CALL MOTION(#20,12,0)
440 IF K=32 THEN CALL DROP(SCH)ELSE 460
450 IF SCH>9 THEN 510 ELSE 220
460 CALL COINC(ALL,H):: IF H THEN CALL C
RASH(SCA)ELSE 480
470 IF SCA>9 THEN 510 ELSE 220
480 CALL POSITION(#20,Y,X):: IF Y<20 THE
N CALL MOTION(#20,12,-12)
490 IF Y>160 THEN CALL MOTION(#20,-12,-1
2)
500 IF SCH>9 OR SCA>9 THEN 510 ELSE 370
510 CALL DELSPRITE(ALL):: CALL CLEAR
520 IF SCA>9 THEN 620
530 DISPLAY AT(10,3):"CONGRATULATIONS! Y
OU WON!"
540 DISPLAY AT(13,3):"SCORE: FOR-";SCH;"
AGAINST-";SCA
550 FOR I=110 TO 440 STEP 20 :: CALL SOU
ND(-100,I,3):: NEXT I
560 CALL SOUND(1500,277,0,330,0,440,0)
570 DISPLAY AT(20,5):"ANOTHER GAME? (Y/N
)"
580 CALL KEY(3,K,S):: IF S<1 THEN 580
590 IF K=78 THEN END
600 IF K<>89 THEN 570
610 CALL CLEAR :: GOTO 210
620 DISPLAY AT(10,10):"WIPED OUT!"
630 GOTO 540
640 SUB GRAPHICS
650 CALL CHAR(128,"0102030107070B132303030
204081010708080C0C080E0D0C8C4C0C0402010080
41C")
660 CALL CHAR(132,"030707030F17676707070
4041C1070506068F8F0EF0808080808080804020E
0A0")
670 CALL CHAR(136,"000000000000010303010
000000000000000000000000080C0C080")
680 CALL CHAR(124,"0000000000000031C1F0F7
88B3F4F487000207838307F83838387F83E51DCF21
20C")
690 CALL CHAR(112,"0000000000000C0C0C0C0
0C0C0FFFFF000000000000030303030303FFF
FFF")
700 CALL CHAR(120,"0000061F0F1F3F7F7F3F1
F1F3F3F3F1000C0F0F8F8FCFCF8FCFCFEFEFEF4E
040")
710 CALL CHAR(103,"FFFFFF66FFFFFF")
720 CALL CHAR(104,"FFFFFFFFFFFFFFFF")
730 CALL CHAR(105,"F8C4828282824F8")
740 CALL COLOR(9,7,1,10,2,1)
750 SUBEND
760 SUB INSTRUCTIONS
770 DISPLAY AT(10,9):"*ROLLERGOAL*"
780 DISPLAY AT(14,4):"EXTENDED BASIC REQ
UIRED."
790 DISPLAY AT(18,3)BEEP:"DO YOU WANT IN
STRUCTIONS?"
800 CALL KEY(3,K,S):: IF S=0 THEN 800
810 IF K=78 THEN CALL CLEAR :: SUBEXIT
820 IF K<>89 THEN 790
830 CALL CLEAR
840 DISPLAY AT(1,8):"*ROLLERGOAL*"
850 DISPLAY AT(7,1):"CATCH THE BALL FROM
 THE GUN THEN MOVE YOUR MAN USING    KEY
S E,S,D,& X UNTIL YOU CANSHOOT AT THE GO
AL. USE SPACE"
860 DISPLAY AT(11,1):"BAR TO THROW BALL.
 YOUR     OPPONENTS CAN ONLY KILL YOU WH
ILE YOU ARE HOLDING THE   BALL. YOU CANN
OT DAMAGE THEM"
870 DISPLAY AT(15,1):"AT ANY TIME, THE G
AME ENDS  AFTER TEN GOALS OR TEN      WI
PE-OUTS."
880 DISPLAY AT(24,4)BEEP:"PRESS ANY KEY
TO PLAY"
890 CALL KEY(3,K,S):: IF S<1 THEN 890
900 CALL CLEAR :: SUBEND
910 SUB SETUP(SP,CT,SCH,SCA)
920 IF CT>0 THEN 960
930 CALL HCHAR(24,1,103,64):: CALL HCHAR
(2,1,104,4):: CALL HCHAR(3,1,104,7)
940 CALL HCHAR(3,8,105)
950 DISPLAY AT(2,10):"*ROLLERGOAL*"
960 CT=CT+1 :: IF CT>4 THEN CT=4
970 CALL DELSPRITE(ALL)
980 DISPLAY AT(23,11):"FOR-";SCH;" AGAIN
ST-";SCA
990 FOR J=1 TO 3
1000 FOR I=1 TO 20 STEP 2 :: CALL SOUND(
-100,110+I*I,1):: NEXT I
1010 NEXT J
1020 CALL SPRITE(#12,112,2,168,20,#20,12
```

```
0,5,25,240)
1030 ON CT GOTO 1070,1060,1050,1040
1040 CALL SPRITE(#7,128,2,32,250,0,SP,#8
,124,2,155,100,0,SP-8)
1050 CALL SPRITE(#5,124,2,130,45,0,SP-2,
#6,124,2,130,120,0,SP-2)
1060 CALL SPRITE(#3,128,2,50,128,0,SP,#4
,128,2,112,128,0,SP)
1070 CALL SPRITE(#1,128,2,96,85,0,SP,#2,
128,2,96,170,0,SP)
1080 SP=SP-2 :: IF SP(-26 THEN SP=-26
1090 SUBEND
1100 SUB CATCH
1110 CALL DELSPRITE(#10):: CALL PATTERN(
#20,132)
1120 CALL SOUND(-50,-5,0)
1130 SUBEND
1140 SUB CRASH(SCA)
1150 CALL PATTERN(#20,120):: CALL COLOR(
#20,9):: CALL SOUND(-100,-7,0)
1160 CALL MOTION(#20,5,0)
1170 FOR I=1 TO 10 STEP .5 :: CALL SOUND
```

```
(-100,1110/I,I):: NEXT I
1180 SCA=SCA+1
1190 SUBEND
1200 SUB DROP(SCH)
1210 CALL POSITION(#20,Y,X):: CALL MOTIO
N(#20,0,-12)
1220 CALL PATTERN(#20,128)
1230 CALL SPRITE(#10,136,2,Y,X,15,-15)
1240 CALL SOUND(-4250,-5,15)
1250 CALL POSITION(#10,Y,X):: IF Y>192 T
HEN CALL DELSPRITE(#10)ELSE 1270
1260 SUBEXIT
1270 CALL COINC(#10,#12,5,H):: IF H THEN
 1280 ELSE 1250
1280 CALL DELSPRITE(#10)
1290 FOR I=0 TO 15 STEP 2 :: CALL SOUND(
-500,800,I,801,I):: NEXT I
1300 SCH=SCH+1
1310 SUBEND
```



You are trapped in a room, which has platforms that are connected by moving girders. On the far side of the room is a timebomb which is set to explode after 1 ½ minutes. You must travel across the platforms and girders, pick up the timebomb and then return to the start at the left of the screen. You will then move on to another room.

You are moved by Z-left M-right.

RUNdown

Line	Action
5	Lowers RAM top, clears memory.
7-11	Prints message.
12-13	Data for positions of platforms.
15	Change character pointer from ROM to RAM.
20-32	Set up user defined graphics.
40-45	Set up main variables.
46-55	Set up screen.
60-65	Set initial positions of moving girders.
70-71	Put man on screen.
75	Clear keyboard buffer.
76-110	Move man.
150-220	Move girders.
500	Check if player has reached the bomb.
510	Check if player has reached star and got bomb.
516-518	Make player fall.
519-530	Explosion.
600-620	Collect bomb.
700-750	End of game, 'NEW GAME?'

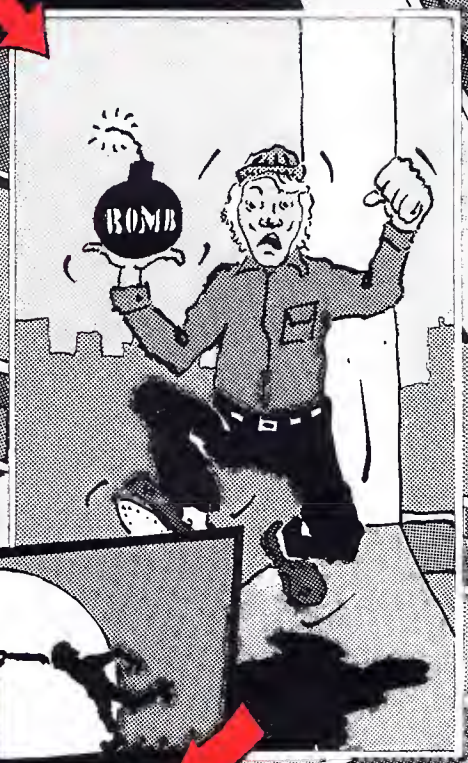
Girders

Variables Used

PF	person's foot
PH	person's head
PC	person's character
LP	girder's positions
SC	score
HI	high score

Conversion

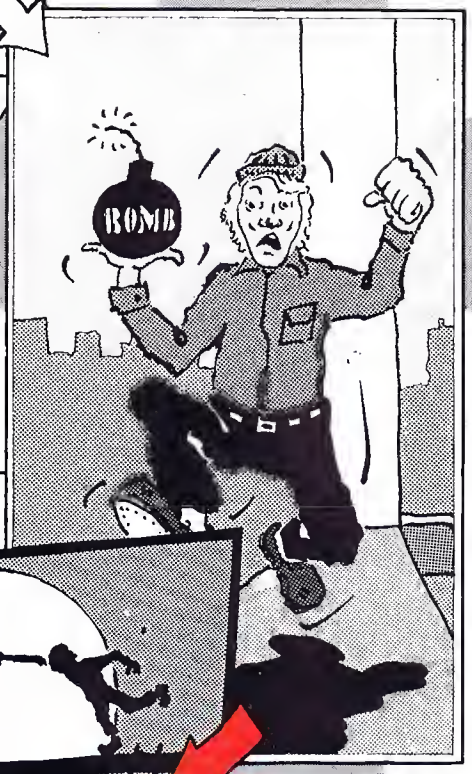
The game uses mostly pokes and peeks and so it will be almost impossible to convert to another machine.

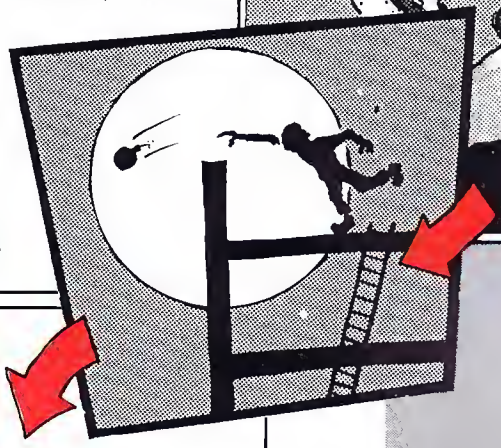


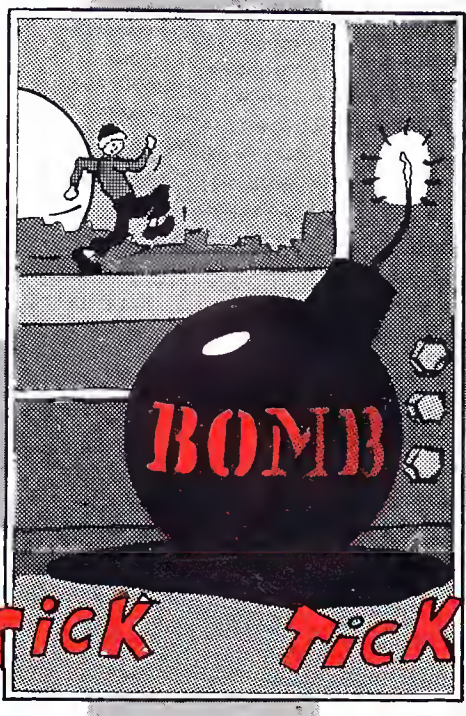
Runs on Vic-20

R.C.A. '84

Girders








```
 10 POKE52,28:POKE56,28:CLR
 11 PRINT"■■PUG ■■■■■SOFT":PRINT:PRINT"■■PRESENTS":PRINT:PRINT:PRINT"■■HARRY"
 12 PRINT:PRINT:PRINT"■■BY J.PUGH":PRINT:PRINT"■■PLEASE WAIT"
 15 WV=30720
 20 FORI=7168TO7679:POKEI,PEEK(I+25600):NEXT
 30 FORT=0TO63:READA:POKET+7168,A:NEXT
 40 DATA127,127,127,,127,127,127,127,0,60,126,219,255,126,36,36,60
 50 DATA60,44,28,255,90,126,60,24,120,120,120,120,120,126,127,127
 60 DATA30,30,30,30,30,126,254,254,112,120,126,79,64,64,64,64
 55 DATA24,60,122,247,247,122,60,24,255,255,255,255,255,255,255,255
 59 HI$="       "
 70 POKE36869,255
 75 LI=3:SC=0:LE=0
 80 PRINT"■":POKE36879,8:PRINT"■"
 90 PRINT"■■■GGGGGGGGGGGGGGGGGGGG":BC=0:TI$="000000":LE=LE+1
100 FORT=1TO15:PRINT"■G@@@@@@@@@@@@@@@@@@G":NEXT
105 PRINT"■GGGGGGGGGGGGGGGGGGGG"
110 PP=7747:BP(1)=8055:BP(2)=8070:NP(1)=0:NP(2)=0:M(1)=1:M(2)=-1
120 POKEPP,2:POKEPP+30720,5:FORH=1TO2:POKEBP(H),2+H:POKEBP(H)+30720,4:NEXTH
130 FORR=1TO10+LE
140 J=INT(RND(1)*330)+1:IFPEEK(J+7746)<>0THEN140
150 POKEJ+7746,6:POKEJ+7746+30720,2:NEXTR
160 FORF=1TO5
170 J=INT(RND(1)*330)+1:IFPEEK(J+7746)<>0THEN170
180 POKEJ+7746,1:POKEJ+7746+30720,1:NEXT
190 FORL=1TO5
200 G=INT(RND(1)*330)+1:IFPEEK(G+7746)<>0THEN200
210 POKEG+7746,5:POKEG+7746+30720,7:NEXT
211 POKE198,0:POKE650,128
220 PRINT"■■■ HIGH="HI$"■/"HI$;
221 PRINT"■■■ TIME="TI$;"■ H■A■R■R■Y■*■*■*";:IFTI$>"000035"
    THEN270
222 GETA$:IFA$="P"THENM=-22:GOTO250
225 IFA$="."THENM=22:GOTO250
230 IFA$="L"THENM=-1:GOTO250
235 IFA$=":"THENM=1:GOTO250
240 GOTO300
250 POKEPP,32:IFPEEK(PP+M)<>0THEN260
252 PP=PP+M:POKEPP,2:POKEPP+WV,5:GOTO300
260 D=PEEK(PP+M):IFD=32THENPOKEPP,2:POKEPP+WV,5:GOTO300
261 IFD<>6THEN270
265 IFD=6THENPOKE36878,15:POKE36875,195:FORT=1TO30:POKE36875,0:SC=SC+10:BC=BC+1
266 IFD=6AND8C=LE+10THEN4000
267 IFD=6THENPRINT"■■■■■
```

IMPORTANT NEWS FOR ALL GAMES COMPUTING READERS!!!

We regret to announce that this is the last issue of Games Computing that you will see, BUT. . .

DO NOT DESPAIR!

We are thrilled to announce the launch of our FANTASTIC BRAND NEW MAGAZINE:

1984 saw such vast changes in the computer games industry that we felt a radical re-think was necessary, so that we could cater properly to the needs and interests of our readers. COMPUTER GAMER is not so much a new magazine but more a new concept for computer gamers everywhere. Priced at 95p the first glorious issue will be on sale in March 1985 and is an absolute must for all games enthusiasts. Along with current news and features of topical interest, each issue will contain great programs to type in for the popular home computers, a regular Adventure column offering hints and tips, reviews of the latest software, a 'high score' page, articles on how to write your own programs and develop amazing effects, and much, much more.

A special feature of the new magazine will be a readers' club which will offer a regular news letter, special offers and all sorts of goodies that the games player just cannot afford to miss!
So next month look out for the very first issue of. . .

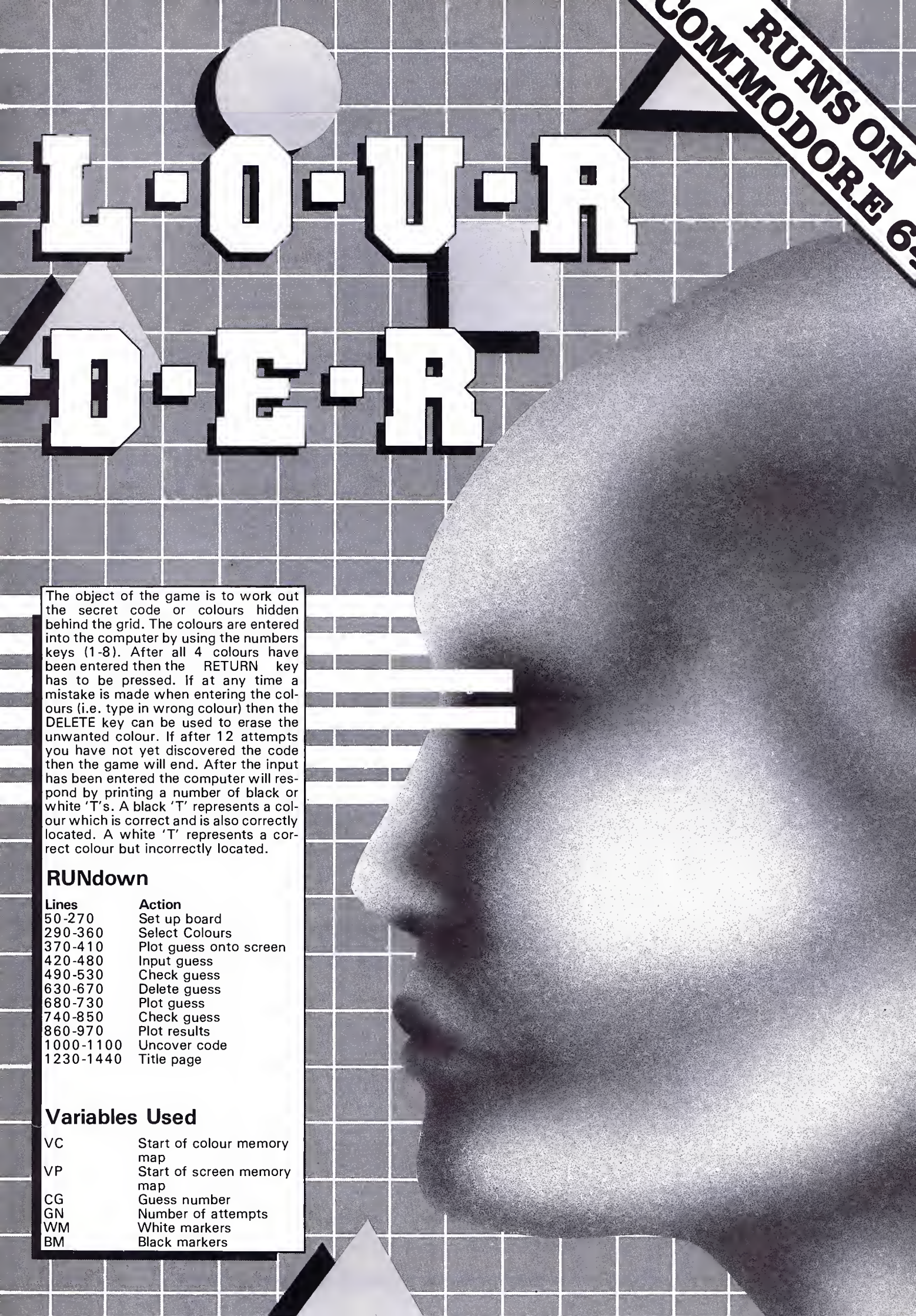
COMPUTER GAMER.

C·O
C·O

-L-O-U-R

-D-E-R

RUNS ON COMMODORE 6



The object of the game is to work out the secret code or colours hidden behind the grid. The colours are entered into the computer by using the numbers keys (1-8). After all 4 colours have been entered then the RETURN key has to be pressed. If at any time a mistake is made when entering the colours (i.e. type in wrong colour) then the DELETE key can be used to erase the unwanted colour. If after 12 attempts you have not yet discovered the code then the game will end. After the input has been entered the computer will respond by printing a number of black or white 'T's. A black 'T' represents a colour which is correct and is also correctly located. A white 'T' represents a correct colour but incorrectly located.

RUNdown

Lines	Action
50-270	Set up board
290-360	Select Colours
370-410	Plot guess onto screen
420-480	Input guess
490-530	Check guess
630-670	Delete guess
680-730	Plot guess
740-850	Check guess
860-970	Plot results
1000-1100	Uncover code
1230-1440	Title page

Variables Used

VC	Start of colour memory map
VP	Start of screen memory map
CG	Guess number
GN	Number of attempts
WM	White markers
BM	Black markers

C·O·L·O·U·R C·O·D·E·R

```
10 GOSUB 1230
20 PRINTCHR$(147):REM CLEAR SCREEN
30 REM A MASTERMIND PROGRAM
40 POKE 53281,9:POKE 53280,9
50 REM FIRST TO PLOT THE BOARD
60 VC=55296:REM SET TO START OF COLOR
70 VP=1024 :REM SET TO VIDEO RAM
80 FOR I=0 TO 39
90 POKE VP+I,226
100 POKE VC+I,0
110 POKE VP+I+(40*10),98
120 POKE VC+I+(40*10),0
130 NEXT I:REM SIDES PLOTTED
140 FOR I=1 TO 9
150 POKE VP+(I*40),97
160 POKE VC+(I*40),0
170 POKE VP+(I*40)+39,225
180 POKE VC+(I*40)+39,0
190 NEXT I:REM SIDES IN
200 POKE 1024,236:REM T.L.H.S CORNER
210 POKE VC,0
220 POKE 1063,251:REM T.R.H.S CORNER
230 POKE VC+39,0
240 POKE 1424,252:REM B.L.H.S CORNER
250 POKE 56256,0
260 POKE 1463,254:REM B.R.H.S CORNER
270 POKE 56256+39,0
280 REM CORNERS NOW IN
290 REM SELECT COLOUR'S
300 FOR CC=1 TO 7:CA(CC)=0:NEXT CC
310 RC=INT(7*RND(1))+1
320 IF CA(RC)=1 THEN GOTO 310
330 CA(RC)=1
340 SC(NC)=RC
350 NC=NC+1
360 IF NC<4 THEN GOTO 310
370 REM PLOT SECRET CODE
380 FOR I=1 TO 4
390 POKE VP+40+(I*40-3),102
400 POKE VC+40+(I*40-3),0
410 NEXT I
420 REM INPUT GUESS
430 PRINT"[■■■■■■■■■■]";
440 PRINT
450 PRINT "TYPE IN GUESS";
460 GA=0
470 FOR I= 1 TO 4:G(I)=0:NEXT I
480 GET CG$:IF CG$="" THEN GOTO 480
490 IF CG$=CHR$(13) AND GA=4 THEN GOTO 580
500 IF CG$=CHR$(13) THEN GOTO 480
510 IF CG$=CHR$(20) THEN GOSUB 630:GOTO 480
520 IF CG$=CHR$(133)THEN GOTO 1000
530 IF CG$<"0" OR CG$>"8" THEN GOTO 480
540 GA=GA+1:REM GUESS NUMBER
550 G(GA)=VAL(CG$)-1
560 GOSUB 1110:REM PRINT UP COLOURED SPOT
570 GOTO 480
580 GOSUB 680:REM PLOT GUESS"
590 PRINT "[■■■■■■■■■]";
600 GN=GN+1
```

```
610 IF GN=12 THEN PRINT"[■■■■■    ■YOUV'E LOST■]":GOSUB1000
620 GOTO 460
630 REM TO DELETE GUESS
640 IF GA=0 THEN GOTO 670
650 GA=GA-1
660 PRINT CHR$(20);CHR$(20);
670 RETURN
680 REM PLOT GUESS
690 REM FIRST PLOT
700 FOR  PG=1 TO 4
710 POKE VP+35+(PG*40-GN*3),81
720 POKE VC+35+(PG*40-GN*3),G(PG)
730 NEXT PG
740 REM CHECK GUESS
750 WM=0:REM WHITE MARKERS
760 BM=0:REM BLACK MARKERS
770 FOR L1=1 TO 4
780 FOR L2=1 TO 4
790 IF L1=L2 AND G(L2)=SC(L1) THEN BP=BP+1
800 IF G(L2)=SC(L1) THEN WP=WP+1
810 NEXT L2
820 IF WP>1 THEN WP=1
830 IF BP=1 THEN WP=0
840 WM=WM+WP:BM=BM+BP:BP=0:WP=0
850 NEXT L1
860 REM PLOT GUESS
870 IF WM=0 THEN GOTO 920
880 FOR P1=1 TO WM
890 POKE VP+235+(P1*40-GN*3),87
900 POKE VC+235+(P1*40-GN*3),8
910 NEXT P1
920 IF BM=0 THEN GOTO 970
930 FOR P2=WM+1 TO WM+BM
940 POKE VP+235+(P2*40-GN*3),87
950 POKE VC+235+(P2*40-GN*3),0
960 NEXT P2
970 REM THEY ARE IN
980 IF BM= 4 THEN GOSUB 1000
990 RETURN
1000 REM UNCOVER CODE
1010 FOR I=1 TO 4
1020 POKE VP+40+(I*40-3),81
1030 POKE VC+40+(I*40-3),SC(I)
1040 NEXT I:IF GN=12 THEN 1210
1050 PRINT
1060 PRINT "[■■■■■■■■■■]CORRECT■ OO YOU WANT A FRESH GAME"
1070 INPUT FG$
1080 IF FG$="N" THEN GOTO 1220
1090 IF FG$="Y" THEN RUN
1100 GOTO 1060
1110 REM PRINT UP SPOT
1120 IF CG$="1" THEN PRINTCHR$(144)+CHR$(113);+" ";
1130 IF CG$="2"THENPRINTCHR$(5)+CHR$(113)+" ";
1140 IF CG$="3"THENPRINTCHR$(28)+CHR$(113);+" ";
1150 IF CG$="4"THENPRINTCHR$(159)+CHR$(113);+" ";
1160 IF CG$="5"THENPRINTCHR$(156)+CHR$(113);+" ";
1170 IF CG$="6"THENPRINTCHR$(30)+CHR$(113);+" ";
1180 IF CG$="7"THENPRINTCHR$(31)+CHR$(113);+" ";
1190 IF CG$="8"THENPRINTCHR$(158)+CHR$(113);+" ";
1200 RETURN
```

```
1210 INPUT"[■■■■■■■■■]OO YOU WANT A FRESH GAME";A$:IF A$="Y" THEN GOTO10
1220 END
1230 REM TITLE PAGE
1240 POKE 53280,0:POKE 53281,0
1250 PRINTCHR$(147);
1260 PRINTTAB(4)"C O L O U R - M A S T E R M I N D"
1270 PRINTTAB(4)"---------------------------------":PRINT
1280 PRINT" ENTER THE COLOURS BY USING KEYS 1-7":PRINT
1290 PRINT"IF YOU TYPE IN A INCORRECT COLOUR THEN":PRINT
1300 PRINT"PRESS THE INST/DEL KEY.IF YOU GET FED":PRINT
1310 PRINT"UP OF THE GAME THEN PRESS F1 AND THE":PRINT
1320 PRINT"CODE WILL BE REVEALED.":PRINT
1330 PRINTTAB(12)"KEY";TAB(20)"COLOUR"
1340 PRINTTAB(12)"---";TAB(20)"------"
1350 PRINTTAB(13)"1";TAB(21)"BLACK"
1360 PRINTTAB(13)"3";TAB(21)"RED"
1370 PRINTTAB(13)"4";TAB(21)"CYAN"
1380 PRINTTAB(13)"5";TAB(21)"PURPLE"
1390 PRINTTAB(13)"6";TAB(21)"GREEN"
1400 PRINTTAB(13)"7";TAB(21)"BLUE"
1410 PRINTTAB(13)"8";TAB(21)"YELLOW"
1420 PRINT:PRINTTAB(7)"PRESS ANY KEY TO CONTINUE"
1430 GETA$:IFA$=""THEN1430
1440 RETURN
READY.
```

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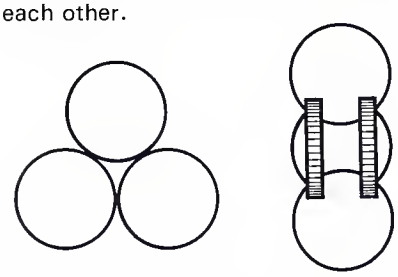
ANSWERS

1 ROUNDHEADS

For four, place three like this and one on top.

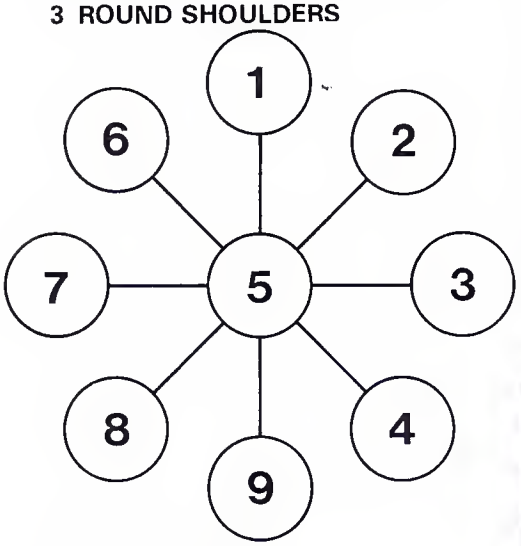
For five, place three like this, and two more stood on end, leaning against each other.



2 GOING ROUND IN CIRCLES

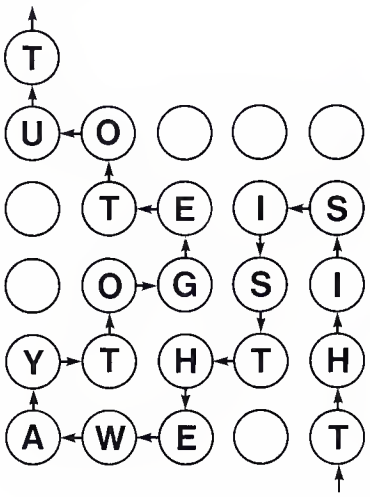
Hands up those who didn't get 12,111

3 ROUND SHOULDERS



4 ROUND ROBIN

'This is the way to get out'.



5 NIGHTS OF THE ROUND TABLE

Someone is playing Monopoly.

6 BREAD ROLLS

50 is the odd one because apparently light bulbs are not commonly sold as 50 watts.

A is wrong — the others are the initial letters of the balls on a snooker table, in no particular order, except that all the reds are bunched down the far end.

Tomato is odd — it is the only one that ever gets mistaken for a vegetable.

6.15 is the only one a TV news programme isn't just starting.

Well what did you expect? We apologise to any new readers. The rest of you should know by now.

7 ROUNDWORMS

Well yes — you can check now if you really want to know. You have probably come across short cuts for knowing if a number is divisible by another — those divisible by ten invariably end in nought; those divisible by 2 tend to be even — and so on. A number is divisible by nine is the sum of the individual digits in it add up to 9, or 18 or so on. We cannot think of an occasion in life where knowledge of this piece of information could be put to practical use — apart from one — and that of course is including it as a puzzle in Games Computing.

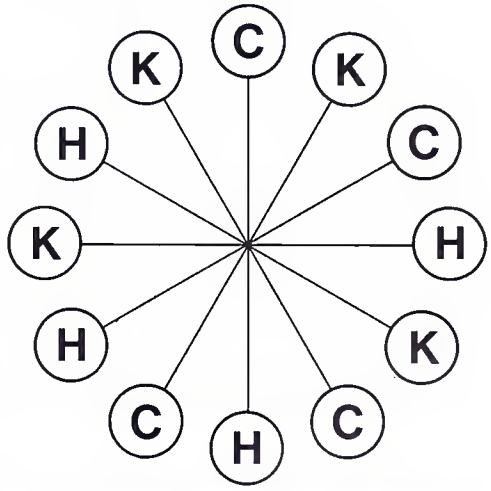
Oh yes, 11. For that number a slightly more bizarre test exists, which is probably quite logical to a mathematician or a computer. If the sum of alternate digits is equal, or differs by a number that divides by 11 — then that is divisible by 11. Fascinating isn't it? Zzzzzzz.

8 ROUNDABOUTS

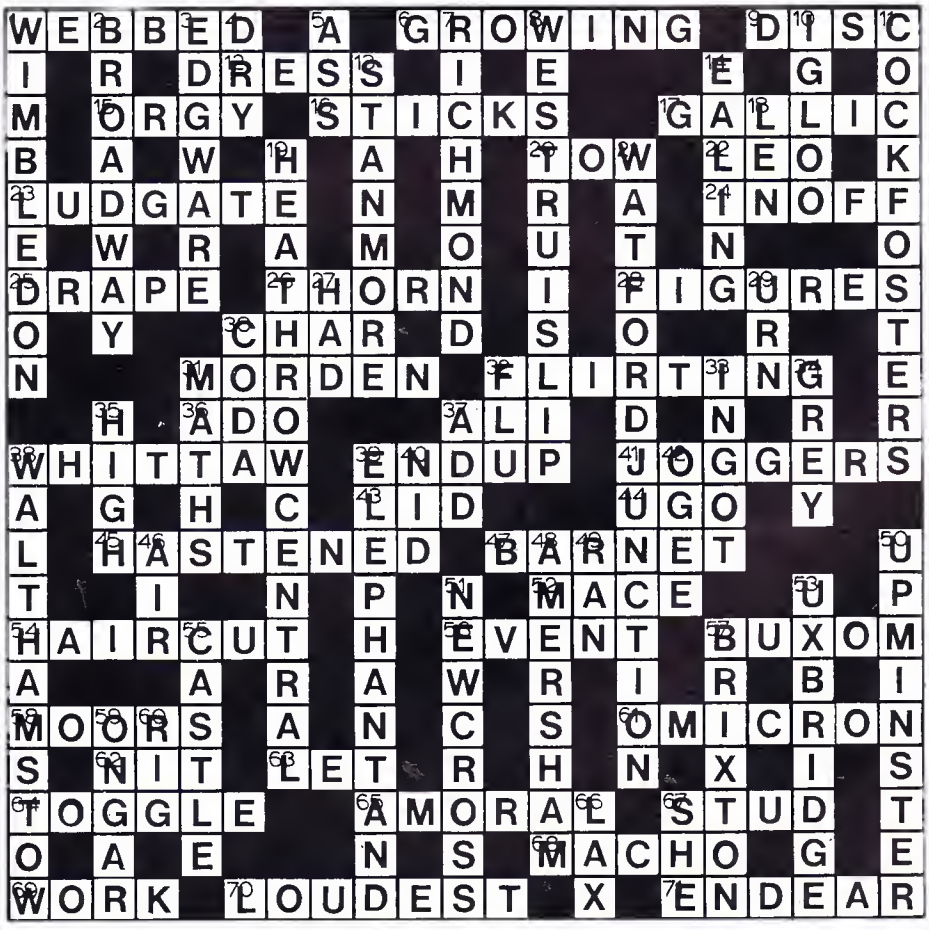
The "e"s fell out of these words — they should of course be:
SQUEEZE
EVERGREEN
PEOPLE

As for the others — try:
ATTENDANT
TESTAMENT
TATTERS

9 ROUND THE CLOCK



10 HAPPY ENDINGS



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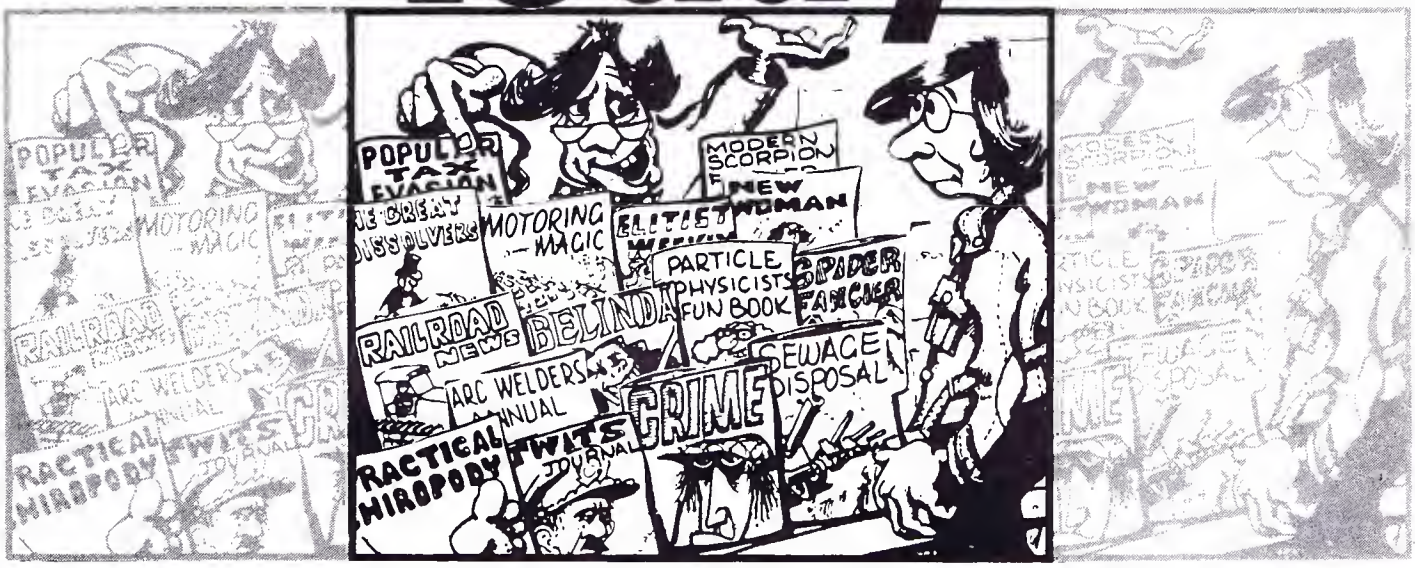

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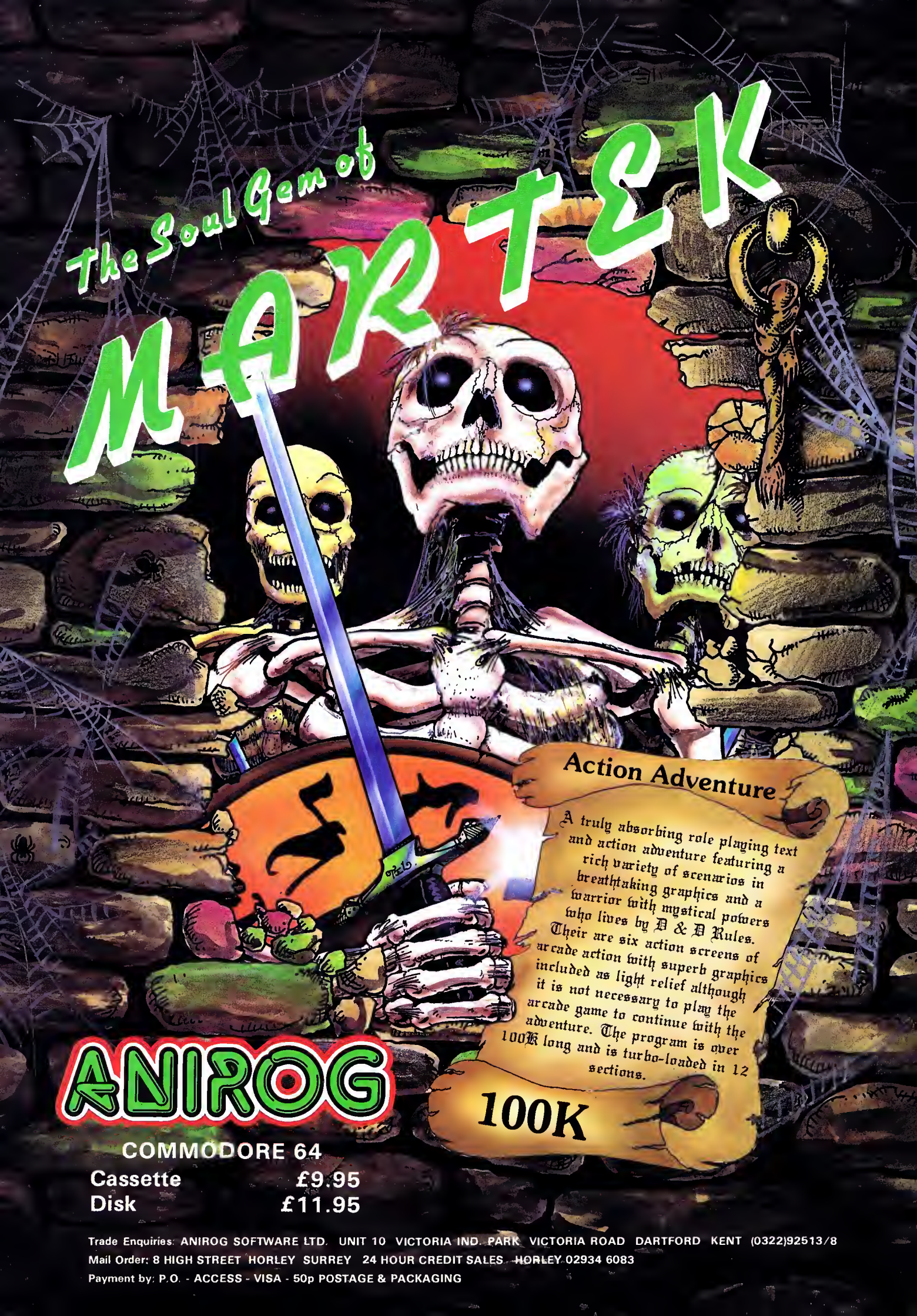
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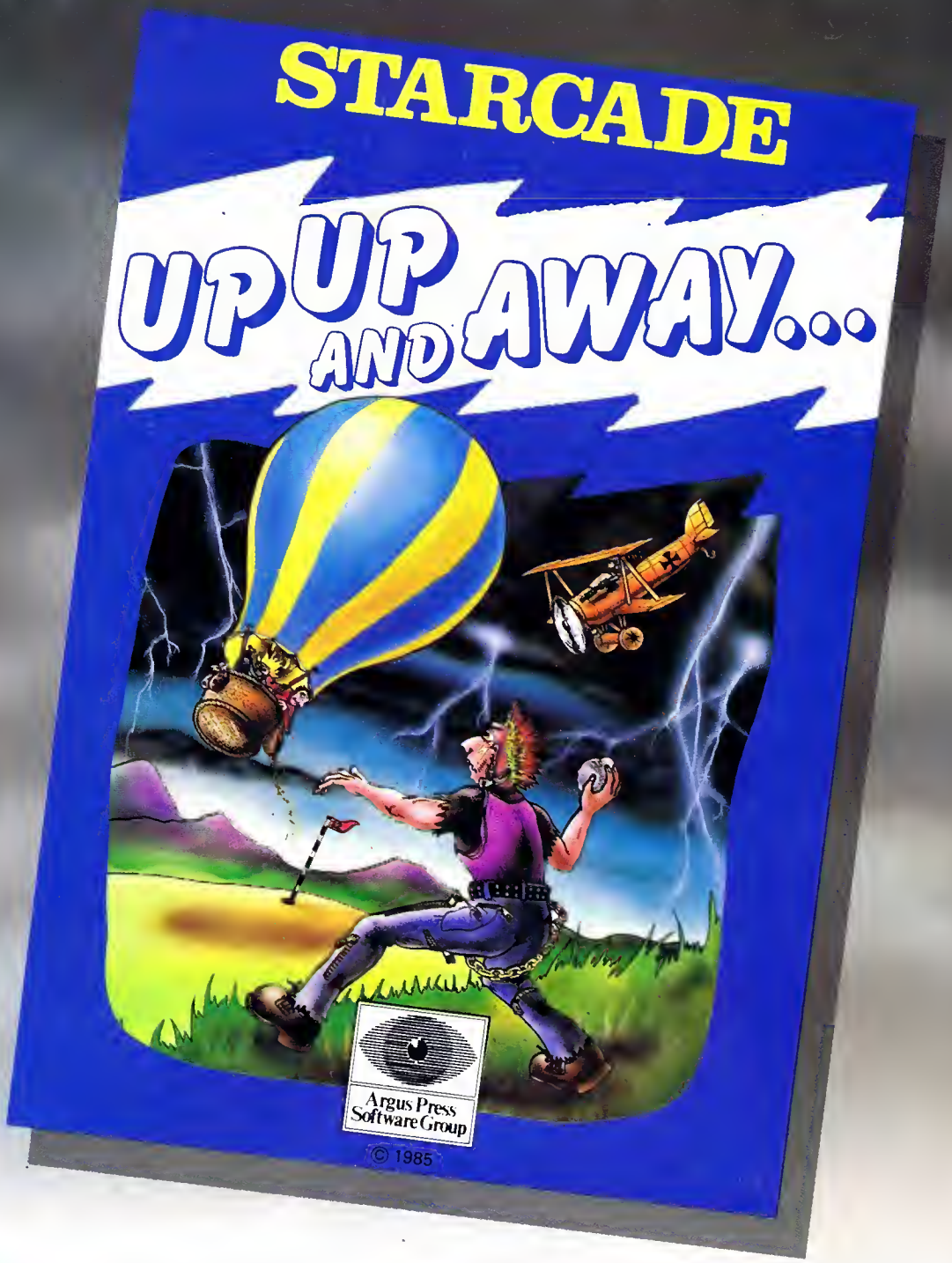

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